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VOLUME NO. 6

EXPLANATORY NOTES

FOR

DEPARTMENT OF AGRICULTURE

BUDGET ESTIMATES

FISCAL YEAR

1942

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AGRICULTURAL MARKETING SERVICE

(a) GENERAL ADMINISTRATIVE EXPENSES

Appropriation Act, 1941	\$157,306
Transferred, 1941, pursuant to Reorgan- ization Plan no. IV from "Food and Drug Administration, General Admin- istrative Expenses"	+8,802
Total available, 1941	166,108
Budget Estimate, 1942	166,108

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. General administration and business service	\$165,546	\$166,108	\$166,108
Unobligated balance	562	- -	- -
Total	a/ 166,108	166,108	166,108

a/ Includes \$8,802 transferred in 1941 from "General administrative expenses, Food and Drug Administration", pursuant to Reorganization Plan No. IV, under which Naval Stores and Insecticide Act administrations remained in the Department of Agriculture.

WORK UNDER THIS APPROPRIATION

This appropriation provides for the general administrative direction of all activities of the Agricultural Marketing Service including: (1) Determination of policies and procedure; (2) coordination of the various lines of work; (3) planning and outlining new activities; (4) planning and direction of cooperative agreements between the Service and various public and private agencies; (5) correlation and supervision of operating functions including: (a) fiscal transactions involving preparation of budgets and budgetary control, maintenance of allotment and expenditure ledgers, and administrative examination and payment of expenses including pay rolls; (b) personnel activities involving classification, appointments and records; (c) procurement, covering property accountability, leases, bids and purchases; (d) technological investigations pertaining to problems connected with the administration of various regulatory Acts; (e) distribution of mail and filing of correspondence; and (f) punch card and machine tabulating service.

Exon

$$\begin{array}{r} 863,900 \\ \hline 821,100 \\ \hline \checkmark 37,000 \end{array}$$

$$\begin{array}{r} 900,900 \\ \hline 89,610 \\ \hline 930,510 \\ - 6,795 \\ \hline 923,715 \end{array}$$

$$\begin{array}{r} 923,715 \end{array}$$

Cal

$$\begin{array}{r} 729,000 \\ 250,000 \\ \hline 979,000 \end{array}$$

$$\begin{array}{r} 988,618 \\ \hline 971,618 \end{array}$$

$$\begin{array}{r} 17,000 \end{array}$$

$$\begin{array}{r} 37,000 \end{array}$$

(b) CROP AND LIVESTOCK ESTIMATES

Appropriation Act, 1941 \$725,000
 Transferred 1941, pursuant
 to Reorganization Plan No.
 IV from Weather Bureau +4,000
 Total available, 1941 729,000
 Budget estimate, 1942 729,000

747
 729,510
 - 18,510

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Crop, livestock and related data	\$747,833	\$729,000	\$729,000
Unobligated balance	3,677	- -	- -
Total	<u>a/ 751,510</u>	729,000	729,000

a/ Includes \$4,000 transferred from Weather Bureau pursuant to Reorganization Plan No. IV, for maintenance of current weather records for use in connection with crop estimating.

WORK UNDER THIS APPROPRIATION

General. Because of its continuous service to agriculture over a period of more than 75 years in supplying the basic statistics on agriculture and the Nation's food supply, the Crop Reporting Board has been called upon to render additional services in every national emergency since the Civil War period and to aid in all of the national farm programs undertaken. During the last World War the work carried on under this appropriation nearly doubled. The various agricultural programs inaugurated since 1932 have been based in most instances upon the information collected under this appropriation. At the present time the defense program and the need for information on the Nation's food supplies is indicating deficiencies in the present information that will have to be filled if a comprehensive program for feeding the armed forces and the civilian population is to be evolved. The Crop Reporting Board is now being pressed for more information as to stocks of various commodities, where these stocks are located, and what facilities are available for distribution. The Board, with its field organization of trained statisticians covering every State in the Union and the many contacts developed through years of service to agriculture as a whole, is furnishing current crop and livestock information for the guidance of producers, and is also providing basic information for the formulation of national programs and policies for agriculture.

Objective: To supply a primary statistical service relating to agricultural production and disposition which will assist growers and handlers in the orderly production and marketing of farm products, and provide the statistical background for consideration of sound agricultural legislation and action programs. The general objective is to furnish, at appropriate intervals throughout the year, comprehensive and reliable statistical data with respect to the supplies, both present and prospective, of all agricultural commodities.

More specifically, the work includes the collection, compilation, analysis, summarization, and publication of essential statistical data, secured largely from growers, handlers, plant operators, processors, and other primary sources. The official reports are made monthly or at other intervals and are available to the entire public. Subject matter covers all phases of present and prospective crop and livestock production, stocks, utilization, prices received and prices paid by farmers, value of production, sales, and other data relating to the agricultural situation.

The Problem: In the pioneer period of the crop reporting work a century ago, the bulk of agricultural production was for home or local use. The task of gathering information and estimating production then was relatively simple and the need for statistical data was slight compared with the broad, varied, and complex production and marketing situations that exist today. Changes have occurred in this hundred years in the scope and character of the Nation's agriculture and in its production and marketing practices. And as further adjustments occur, new situations continue to develop in production, marketing, and use of farm products, which must be accurately appraised, and measured. This project is designed to meet the need for these data.

Not alone producers but every one concerned with the movement, storage or use of these commodities - including the consumer - finds it increasingly desirable and necessary to have in hand the fullest and most dependable facts as to potential supplies and the marketing prospects for each commodity. For these reasons, producers and other interested groups invariably look to the Department of Agriculture for unbiased and authoritative data to guide their operations.

Significance: Sales of products from the Nation's farms have, in recent years, produced an annual cash income of approximately 8 billion dollars. In handling a business of this size, it is obvious that farmers particularly need the current nationwide facts contained in the Government reports. Lacking such reports and without access to other sources of information available to those to whom they sell their products, farmers would be compelled to dispose of their products under unfair bargaining handicaps. The official estimates of the Department, on the other hand, definitely tend to equalize the bargaining positions of producers and buyers, and to reduce the farmers' production and marketing risks.

Crop and livestock reports also are used extensively by many other groups and agencies. And many of the uses made of the official data by these other interests contribute additional benefits to producers indirectly as, for example, in planning the effective placement of transportation and other facilities just before crops are ready to move, or in extending and adapting credit facilities or, again, in the development of desirable Federal or State legislation or administrative action affecting production or marketing of farm products. The reports are thus constantly in wide demand. Requests for the current estimates, and often for more detailed information than can be supplied, are steadily made, not only by Federal and State government agencies, State colleges and experiment stations and all other representative agricultural interests but also by industrial and commercial concerns, railroads, banks, credit agencies and various private organizations.

Plan and Progress of Work: The organization of the activities under this project requires a Washington staff of trained statisticians and statistical clerks, and a competent force of statisticians and clerks in each of 41 field offices. In 27 of these offices the work is conducted in cooperation either with the State Department of Agriculture, the State College or Experiment Station, or some other official State agency. Following is the list of field offices; the cooperative offices being designated by an asterisk (*):

*Montgomery, Ala.	Helena, Mont.
Phoenix, Ariz.	*Lincoln, Nebr.
*Little Rock, Ark.	*Trenton, N. J.
*Sacramento, Calif.	Las Cruces, N. Mex.
*Denver, Colo.	*Albany, N. Y.
Orlando, Fla.	*Raleigh, N. C.
*Athens, Ga.	Fargo, N. Dak.
Boise, Ida.	*Columbus, Ohio
*Springfield, Ill.	Oklahoma City, Okla.
*West Lafayette, Ind.	*Portland, Ore.
*Des Moines, Ia.	*Harrisburg, Pa.
*Topeka, Kans.	Columbia, S. C.
Louisville, Ky.	*Sioux Falls, S. Dak.
*Baton Rouge, La.	*Knoxville, Tenn.
*College Park, Md.	Austin, Texas
(For Md. & Del.)	Salt Lake City, Utah
*Boston, Mass.	(For Utah & Nevada)
(For N.Eng. States)	*Richmond, Va.
*Lansing, Mich.	Seattle, Wash.
*St. Paul, Minn.	*Charleston, W. Va.
Gulfport, Miss.	*Madison, Wis.
*Columbia, Mo.	Cheyenne, Wyo.

The monthly reports of the Crop Reporting Board and the numerous other statistical reports issued each year, on dates scheduled well in advance, are designed to provide a connected series of clear-cut pictures of the changing situation with respect to crop and livestock production, supplies, movement, and related agricultural information. One or more

reports a year are issued on each of more than 100 crops, including cotton, 11 grain crops, 10 hay crops, 6 legumes, 17 clover and grass seeds, 4 sugar and sirup crops, 21 fruits, 4 nut crops, 26 vegetables and truck crops, tobacco (23 types), and 6 miscellaneous crops. The reports contain estimates, by States, of acreage, yield and production, monthly forecasts during the growing season to indicate changing prospects and end-of-season estimates of sales, home use and other utilization, prices, and value of production. Estimates are issued on all important species of livestock, and on poultry; on meat animal production, sales, disposition and value; on wool and mohair production; and on numbers of hogs, sheep and cattle on feed or available for market, and kindred subjects. Other reports cover monthly milk production, weekly butter production indications, and monthly poultry and egg production, together with estimates of utilization, sales and value. Reports are issued at monthly or other intervals on cold storage holdings of various agricultural commodities, prices received and paid by farmers and farm labor supply, wage rates and employment.

The work of gathering, compiling, and analysing the reports from farmers, dealers, and other individuals and establishments is extensively decentralized among the field offices. The reports made by the various reporters are voluntary and held strictly confidential. One group of regular crop correspondents, practically all farmers, numbering about 200,000, comprise the corps which supplies the information for localities all over the United States upon which the monthly cotton and general crop reports are based. Another list of approximately 100,000 reporters, chiefly local merchants or dealers, supply monthly or other periodic information on prices received by farmers for products sold and prices paid by farmers for articles bought. About 60,000 livestock, dairy and poultry producers and 60,000 general farmers make up other lists of regular reporters. Also, there are roughly 80,000 establishments (mills, elevators, ginners, cold storage warehouses, dairy manufacturers, etc.) who furnish reports at regular intervals. In addition to these regular lists, upwards of 300,000 farmers cooperate each year by furnishing a detailed report of the acreage in crops and number of livestock on their own farms, in surveys made in cooperation with the Post Office Department. None of these people are paid for their services in reporting to the Department.

Substantial progress has been made in practically all lines in the past few years, particularly in the development of new or more detailed data needed as a result of the various governmental action programs in behalf of agriculture. Outstanding also has been the closer coordination of the statistical work with the other service functions of the Agricultural Marketing Service.

Reports concerning crop progress have been made for many years as of the first of each month. During this past year, a beginning was made in the issuance of joint weekly weather and crop reports as a cooperative effort with the Weather Bureau and other agencies. These

joint weekly reports are now issued for the following States: Montana, Utah, Wyoming, Colorado, Nebraska, Kansas, Oklahoma, Arkansas, Pennsylvania, Illinois, Alabama, and Virginia, and will soon be started in Texas, Louisiana, North Carolina, South Carolina, and Georgia.

Two of the leading agricultural products from the standpoint of value are milk and eggs. The Department has collected monthly information on these commodities since 1925 and has issued indices of monthly production in terms of average production of milk per cow and average number of eggs per 100 hens. During the past year, the data have been used as the basis of formal estimates of production of milk and eggs during each month, and in March of 1940, monthly reports of current milk production were initiated.

Semi-monthly reports relating to the progress of commercial truck crops and their movement to market were expanded to include detailed information from all important producing areas. The interval between the date of collection of this information and its publication was reduced from about 10 days to 5 days. Through a direct exchange between States, such crop news is released in field offices and in Washington simultaneously. Auxiliary to this, immediate release of information covering weather damage to truck crops was made over the leased wire, by radio, and by mimeographed report.

SUPPLEMENTAL FUNDS

Direct Allotments

Projects	Obligated 1940	Estimated obligations 1941	Estimated obligations 1942
<u>Working Fund, Agriculture, Agricultural Marketing Service, (Advance from Census Bureau):</u> For statistical and other services in connection with the 1940 Census of Agriculture	\$34,888	\$30,000	- -
<u>Salaries and Expenses, Agricultural Adjustment Administration:</u> Estimates and reports on fruit and vegetable crops, and special services in connection with standards for canned fruits and vegetables; statistics of prices paid by farmers	119,882	135,000	130,000
<u>Conservation and Use of Agricultural Land Resources:</u> Crop production data as a basis for determination of acreage allotments, normal yields and marketing quotas	219,609	130,000	130,000
<u>Parity Payments, Department of Agriculture:</u> Crop production data as a basis for determination of acreage allotments, normal yields and marketing quotas .	- -	100,000	100,000
<u>Emergency Relief Appropriation Act:</u> Survey of farm employment, and of prices paid by farmers and prices paid to farmers	43,452	168,300	- -
Administrative expense	1,200	6,558	- -
Total, Emergency Relief Appropriation Act	44,652	174,858	- -
Total, Supplemental funds (direct allotments)	419,031	569,858	360,000

(a) MARKET NEWS SERVICE

Appropriation Act, 1941	\$1,125,000
Budget estimate, 1942	<u>1,125,000</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Market news service on livestock, meats and wool .	\$466,982	\$460,889	\$460,889
2. Market news service on fruits and vegetables	405,059	418,091	418,091
3. Market news service on dairy and poultry products	118,548	119,488	119,488
4. Market news service on grain, hay, feed, rice and hops	62,797	63,289	63,289
5. Market news service on cottonseed	19,769	19,943	19,943
6. Marketing statistics	58,000	43,300	43,300
Unobligated balance	7,147	- -	- -
Total	1,138,302	1,125,000	1,125,000

WORK UNDER THIS APPROPRIATION

Objective: The objective in all market news work is to supply producers, shippers, handlers and others with timely and accurate information relative to the market supplies and price and the conditions affecting the market.

The Problem: The effectiveness of market news in assisting farmers in marketing produce is dependent upon the adequacy and the accuracy of the information and the speed or timeliness of the report. The problems involved therefore can be summarized briefly under these three general headings - adequacy, accuracy and timeliness.

Adequacy depends largely upon the personnel available for covering the market. This has become a pressing problem in recent years because of the increasing tendency toward the use of the motor truck, the widening of the market area and the demand from producers for reports on more commodities and coverage of more markets.

Accuracy of the reports is largely a problem of trained personnel. This is, of course, met by the proper selection of personnel and instruction and direction from the administrative heads of the market reporting work.

Timeliness is a problem that arises continually. It is met, insofar as possible, by providing a leased wire system representing more than 7,500 miles (air line) of telegraph wires for rapid interchange of information between offices, by release of mimeographed reports, and by cooperation with established agencies for dissemination of news. The press and radio are most cooperative in assisting with the news dissemination. This, of course, reflects a demand from the radio audience. Since the coverage by radio is often regional in scope, consolidating market news information from two or three offices on many different products constitutes a real problem. Around 350 radio stations are cooperating in the use of market news information, without cost to the government for broadcasting time.

Significance: The importance of adequate market information is probably shown as well by the requests for information that are received daily as by any other means. By frequent circularization the mailing lists are restricted to those who request the specific reports. In spite of this, the total number requesting reports gradually increases. Another indication of the desire for information is represented by the telephone calls received at the market news offices. In many of the larger offices it requires practically full time of a clerk, and sometimes more than one, to answer the telephone calls alone. For example, at times during the day four trunk lines are inadequate to accomodate telephone calls for information at the livestock office in Chicago.

The main reason for this interest in the market reports in general is the fact that in marketing work it is essential to know as much as possible about the supply, demand, price, and market condition. This project furnishes the market information the farmer needs to place him in a better bargaining position with the buyer of his produce. Lacking the information, the producer is dependent almost entirely upon the information which is passed on to him by the trader.

A comprehensive market reporting service, coupled with the crop reporting work, provides a rounded program of informational service that is essential to proper marketing of agricultural products. The information provided is indispensable to the operation of many of the programs designed to aid agriculture.

Plan and Progress of Work: The market news work is organized along commodity lines and each will be discussed separately. For the whole market news project, it is significant that further progress has been made in coordinating this work with other activities in the Agricultural Marketing Service. During the past two years the market reporting activity has been linked more closely than ever before with the crop reporting and grading and inspection work. This has served to improve the information that is obtained.

Another important development is the greater use that has been made of the radio and press facilities for the distribution of information. This cooperation has made it possible to cover a wide area more rapidly and completely than would be possible otherwise. For example,

through arrangements with the radio press service it has been possible to cover practically the entire South by arranging for the preparation of daily reports on fruits and vegetables, livestock, grain, feed, poultry products, and other items, at one point -- Atlanta. A similar program is carried out in the central States through the office at Kansas City, Missouri. This information is turned over to the radio press service at these two points and is redistributed over their wires to more than 70 radio stations. Some work of this sort is also being done in New York. During the year one radio network carried all of the early morning reports on fruits and vegetables to stations covering the eastern part of the country. Further development of this type of service is desired by farmers and others, and the radio and press are willing to extend their present broad cooperative arrangement.

There are, in all, about 115 market news field offices provided for under this appropriation. The number varies a little from year to year because of the varying requirements for temporary seasonal offices in producing sections. The offices are distributed as follows: Fruits and vegetables, 22 permanent and 46 seasonal offices; livestock, 30 permanent and 1 seasonal; grain and feed, 7 permanent; dairy and poultry, 8 permanent; cottonseed, 1 permanent office. (Cotton and tobacco market news work is provided for under separate appropriation items.)

Project 1. Market News Service on Livestock, Meats and Wool:

The service is planned to provide coverage of as large a proportion of livestock, meat and wool marketings from the various sections of the country as is possible and to provide for prompt and widespread distribution of the information through the various avenues of news dissemination. Market reporting offices are located at a total of 29 public livestock markets, at five of the country's largest meat distributing centers and at the dominant wool market center. Cooperation of more than 300 radio stations, the leading news press associations, hundreds of news, trade and agricultural publications, livestock, meat and wool market agencies, State Departments of Agriculture, financial institutions, commercial telegraph companies and other news disseminating agencies has widened the distribution of the information provided by Agricultural Marketing Service. Approximately 7,600,000 mail reports are distributed annually in response to individual requests.

Field offices are operated at the following points:

Livestock Market Reporting Offices (Public Markets) -- Baltimore, Boston, Buffalo, Chicago, Cincinnati, Denver, Ft. Worth, Houston, Indianapolis, Kansas City, Los Angeles, Louisville, Montgomery, Nashville, National Stockyards, Ill., New York (Jersey City and New York City markets), North Portland, Oregon, Ogden (Ogden and North Salt Lake markets), Oklahoma City, Omaha, Peoria, South St. Joseph, S. St. Paul, San Antonio, San Francisco, Sioux City, Wichita.

Livestock Market Reporting Offices (Direct Marketings) -- Des Moines (reporting direct hog marketings at 10 packing plants and 18

concentration yards in Interior Iowa and Southern Minnesota); Thomasville, Georgia, Montgomery, Alabama (reporting direct marketings of hogs and cattle at various packing plants, cooperative sales and auction markets in Southern Georgia, Florida, and Alabama); Casper, Ogden and San Francisco (reporting on direct and contract sales and market movements of sheep and lambs in highly important producing sections of Arizona, California, Idaho, Montana, Nevada, Utah, Oregon, Washington and Wyoming).

Wholesale Meat Market Reporting Offices -- Boston, New York, Philadelphia, Chicago, San Francisco.

Wool Market Reporting Offices -- Boston.

Important new services inaugurated during the fiscal year 1940 include the reporting of the Peoria, Illinois, public livestock market, weekly reports of the slaughter of livestock under Federal inspection embracing, by species, from 70% to 80% of the total Federally inspected slaughter, and monthly releases disclosing the movement of stocker and feeder cattle and sheep into seven Corn Belt States segregated as between the receipts from public markets and receipts from other sources.

The continued expansion of direct marketings of livestock has been carefully studied for the purpose of determining the adequacy of the service as it is now organized and operated and to place the service in position to give proper consideration to such changes in or extensions of the activity as may be found advisable and as financial conditions may permit. This study clearly indicates that increased attention to current movements and prices of livestock selling direct to packers, grazers and finishers is necessary if the service is to continue to provide reasonably adequate information relative to marketings of livestock and livestock products on a national basis.

Project 2. Market News Service on Fruits and Vegetables:

The objective of the Market News Service on fruits and vegetables is to collect and correlate all possible pertinent information available on daily shipments, supplies and prices in important shipping areas and large receiving and consuming markets, and to distribute such reports to all interested parties. Free dissemination is made by mail, radio and the press.

During the fiscal year 1940 market information was collected and disseminated from 22 year-long offices located in the principal cities and 46 temporary offices of from three weeks to nine months duration located in the most important producing sections of the country. A total of 49 fresh fruits and vegetables was covered in these market reports.

The 22 permanent offices are located in 17 States and the District of Columbia, as follows: Boston, Mass., New York, N. Y., Philadelphia and Pittsburgh, Pa., Baltimore, Md., Cincinnati and Cleveland, Ohio, Detroit, Mich., Chicago, Ill., St. Louis and Kansas City, Mo.,

Minneapolis, Minn., Atlanta, Ga., New Orleans, La., Fort Worth, Texas, Oklahoma City, Okla., Denver, Colo., San Francisco and Los Angeles, Calif., Portland, Ore., Seattle, Wash., and Washington, D. C.

The 46 temporary field offices are located in 21 States, namely Florida, Texas, California, North Carolina, Georgia, Arizona, South Carolina, Michigan, Illinois, Idaho, Louisiana, Mississippi, Alabama, Maryland, Arkansas, Oregon, Colorado, Wisconsin, New York, West Virginia and Maine.

Approximately 700 traffic officials representing around 300 transportation companies (railroad companies, express companies, and boat lines) report daily by telegraph the number of carloads (or carload equivalents) of 49 fresh fruits and vegetables being forwarded to market. These telegraphic reports, which are received in Washington during the night, are tabulated by States of origin and commodities, and distributed each day except Sunday, at 8:30 A.M., over the leased wire system to 22 permanent offices.

The carlot shipment information, as received, together with local information on carlot arrivals and cars held on track, prices, and market conditions, supplemented with similar information from competing markets (also received via leased wire) and price and market condition information covering important producing areas, are combined into daily market reports which are mimeographed and distributed by mail to the public. Supplemental dissemination of these market reports is also made by telegraph, newspapers, radio, and by telephone. The use of the leased wire system, the telegraph and the radio enable instant distribution which is essential to the most efficient utilization of this market information in current daily trading on fruits and vegetables. These official market reports are also generally used as the basis for settling claims for damages occurring while the commodities are being transported from shipping point to market.

Approximately 14,000,000 individual market reports were distributed by mail to more than 70,000 producers, shippers, and wholesale receivers. Special reports for broadcasting are prepared in 19 offices and broadcast over local radio stations. In many cases such broadcasts were distributed over chain hook-ups.

Project 3. Market News Service on Dairy and Poultry Products:

All information is furnished by industry representatives on a voluntary basis. Typical sources of information are railroads, cold storage warehouses, market dealers, packers, cooperative associations, mercantile exchanges, country packers and shippers. Initial contacts are usually made in person, and in the market where prices are reported information is secured by personal interviews. Much information of a purely statistical nature is secured by mail on specially provided forms, or by telephone. Constant follow-up is required, and, in all cases, an intimate knowledge of industry practices is essential on the part of market news representatives.

Offices covering dairy and poultry products are maintained at Washington, and in New York, Chicago, Philadelphia, Boston, San Francisco, Los Angeles, Portland, and Seattle. In Pittsburgh, Baltimore, Cleveland and Denver prices and comments on local conditions are reported. In California, Michigan and Virginia the market news service is conducted under joint agreements with the State Departments of Agriculture. The market reports contain information regarding current production; daily receipts; storage stocks, wholesale and jobbing prices of dairy and poultry products at important markets; weekly receipts of eggs at Pacific Coast primary markets, eggs and live poultry at Central Western primary markets; eggs at Eastern egg auctions and producers assembling plants; weekly receipts of cheese from factories at Wisconsin primary markets; weekly carlot shipments of eggs from Pacific Coast States to Eastern markets (by destination); and other pertinent market information. This market information is given publicity throughout the country by telephone, telegraph, mail, radio, bulletin boards, and newspapers.

Project 4. Market News Service on Grain, Hay, Feed, Rice and Hops:

The service is national in scope and functions through branch offices in Atlanta, Chicago, Minneapolis, Kansas City, Missouri, Portland, San Francisco and Los Angeles.

Current information on stocks, movement, market demand, prices and other market factors is obtained through the field offices, from trade correspondents in leading markets both in the United States and foreign countries, and from other governmental agencies. These data are analyzed and important factors are incorporated in weekly reviews. Dissemination is by means of radio, newspapers, farm and trade journals, and to a limited extent by mimeographed reports to growers, dealers, elevator operators, county agents, college extension specialists and State Agricultural Adjustment Administration committeemen.

The reviews and other reports issued at the field offices are designed to meet the needs of the areas in which they are distributed. The grain and feed reviews are issued from practically all of the field offices but the dissemination of the information on rice is limited mostly to California and the Southern Rice Belt. Special releases on the barley market are distributed by the Pacific Coast offices. The market news service on hops is confined to the growing districts of Washington, Oregon and California. The bean market news service is conducted in California in cooperation with the State Department of Agriculture. Most of the statistical releases on production, market movement, and stocks are prepared in the Washington office and either disseminated from there or forwarded to the field offices by leased wire for local distribution.

Project 5. Market News Service on Cottonseed:

In order that farmers may make use of the information obtained by sampling and grading cottonseed under federal inspection it is

necessary for this service to be coordinated with adequate price quotation reports and other market information. No such information is available in cotton-growing States where cottonseed grading is not practiced.

Producers of cottonseed have learned from information furnished through market news and cottonseed inspection the important factors influencing the value of cottonseed and have taken advantage of this information by improving cultural, harvesting, and handling practices so as to increase the value of the seed in some sections as much as 10 pounds of available oil per ton of seed. The foreign matter in cottonseed which formerly averaged from 3 to 10 percent of the total weight of seed has been greatly reduced in areas where cottonseed market news and cottonseed sampling and grading are available. The farm value of cottonseed totaled about \$112,000,000 in 1939 and cottonseed products about \$159,000,000.

Cottonseed market reviews are issued regularly each week during the active marketing season, August 1 to March 1, and at intervals of 2 to 4 weeks from March 1 to the beginning of the new season. These reviews give current marketing information for each important cottonseed-producing county. They show the average grades of seed sold, the base-grade price paid by oil mills, and prices paid by local buyers (usually cotton ginner) along with general information on the market for cottonseed products and the weekly movement of cottonseed by counties.

Marked improvements have been noted in the relationship between base-grade prices and the gross value of cottonseed products obtainable from seed of the base grade and the prices paid by middlemen to farmers in those areas where cottonseed grading and market news is available.

In addition to being mailed to all interested persons requesting the service cottonseed market reviews are reproduced in press and trade journals and posted on bulletin boards at many points where cottonseed is marketed.

Project 6. Marketing Statistics:

In the collection of monthly and other periodical data on shipments and receipts of livestock, fresh fruits and vegetables, dairy and poultry products, thousands of headquarters officials and Division or local agents of the common carriers (rail, express, boat and truck lines) render voluntary and invaluable cooperation. About 7,500 carriers' agents furnish monthly data on originating shipments of fresh fruits and vegetables, and about 900 report unloads from 66 important consuming cities.

Information on dairy and poultry products is collected primarily by mailed questionnaires from Washington, although part of the work has been decentralized, particularly that relating to manufactured dairy products.

The field offices collect and summarize data on manufactured dairy products in those States where there is cooperation with State agencies having legal authority to secure complete returns. Cooperative agreements are in effect in the following States: California, Colorado, Idaho, Illinois, Indiana, Iowa, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Utah, Virginia, Washington, and Wisconsin. In all the other States, information is collected by questionnaires mailed from the Washington office. The report on manufactured dairy products covers an enumeration from approximately 15,000 dairy plants.

All of the current monthly reports on dairy and poultry marketing statistics prepared under this project are released from Washington. These reports relate to estimated butter and cheese production, condensed and evaporated milk production, dry milk production, fluid milk prices, hatchery production, and frozen egg production.

Seed movements are not included in any market news services, and the work done under this appropriation attempts to supply this need. The reports on seeds issued during the past fiscal year were concerned with rate of movement, prevailing prices in commercial areas, quality, shipments of seeds by country shippers, retail seed prices, and sales of retail dealers. One report on seed stocks in dealers' hands was issued. This last report was the first of its kind in 20 years and the information provided a long missing link in the chain of seed reporting. For the 19 seed crops regularly estimated, schedules are mailed and the returns tabulated and compiled in the State offices. Reports are issued by the Washington office and mailed to lists of about 17,000 individuals and organizations who made specific request for the reports. The reports are reissued from the State offices and are carried regularly in the leading seed trade papers.

During the year two issues (one for 1938 and the other for 1939) of the annual carlot shipment reports were prepared. These show the number of cars of individual fruits and vegetables shipped, by States and by months, throughout the United States, and constitute valuable information for those interested in the source of the commercial supply of these crops.

(d) MARKET INSPECTION OF FARM PRODUCTS

Appropriation Act, 1941	\$459,000
Budget estimate, 1942	<u>459,000</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)	Increase or decrease
1. Inspection and certification of fruits and vegetables	\$275,395	\$277,795	\$277,795	- -
2. Inspection and certification of processed fruits and vegetables	37,583	37,900	43,200	+\$5,300 (1)
3. Grading and certification of dairy and poultry products ..	52,593	53,090	53,090	- -
4. Inspection and certification of rice, hay, beans, etc. ...	34,350	34,465	29,165	- 5,300 (1)
5. Grading and certification of livestock and meat	32,439	32,750	32,750	- -
6. Inspection and certification of cottonseed	22,610	23,000	23,000	- -
Unobligated balance	4,030	- -	- -	- -
Total	459,000	459,000	459,000	- -

INCREASE OR DECREASE

(1) No change in the total appropriation is estimated. However, in view of the discontinuance of soybean inspections under this item, by reason of amendment to the United States Grain Standards Act, approved July 18, 1940, it is proposed to reduce the allotment under the project Inspection and Certification of Rice, Hay, Beans, Etc., by \$5,300 and increase in the same amount the allotment under the project Inspection and Certification of Processed Fruits and Vegetables. Demand for this service has increased rapidly in recent years. The use of grades in the purchase of processed foods by public and private agencies has reached a point where additional supervision is essential if the work is to be conducted on a normal basis. An additional inspection point is needed in Florida to provide inspection service in one of the most important producing sections in the country.

WORK UNDER THIS APPROPRIATION

Objective: The objective of the work carried on under this appropriation is: To provide a factual, disinterested inspection service for farm products; to assist the farmer in securing a return for his produce commensurate with the quality of the product offered for sale; through the issuance of

uniform inspection certificates to facilitate marketing of farm products; and to aid in the merchandising of agricultural products through the application of uniform grade terminology throughout the marketing process.

The Problem: A meeting of minds between buyer and seller is the essence of marketing. To consummate a fair contract or agreement it is essential that both buyer and seller fully understand what is being bought or sold. With the widespread market that is made possible by present day transportation and communication one of the most important single problems in marketing is the provision for some means whereby the products can be accurately and impartially described. This project, therefore, is concerned with the last step in marketing, that is, providing the buyer and seller with uniform specifications and terms whereby the exchange can be consummated on a fair and impartial basis.

Administratively the most important problem is the supervision of the graders and inspectors to assure uniform interpretation of the grades. This involves frequent checking on the graders operating at widely separated points, the preparation of standard forms or samples for use of the graders, the application of new techniques which are developed under the research projects described later and the constant training of new personnel.

Significance: Cash farm income, which fairly represents the sales of farm products, will average around eight billion dollars (\$8,000,000,000) annually. All sales must take place on the basis of some understanding as to the quality of the product. Where this understanding is based upon an inspection certificate issued by the Department of Agriculture, that certificate constitutes an unbiased appraisal of commodity and is, therefore, an assurance to the parties to a contract of the quality or description of the produce offered for sale.

Although inspections are made only on the application of interested parties, the importance and value of this work is not limited to the individuals who may be the parties to a merchandising contract. This activity has an important and fundamental public interest. It promotes better marketing by the use of uniform standards. The inspection certificates aid in settling disputes which arise among buyers, sellers, carriers, and other parties as to the quality and condition of the commodities involved in individual transactions. Programs conducted with producers for the improvement of quality of agricultural products have for years been based very largely on the application of uniform grades and standards. The grading and inspection work is directly related to the administration of other Federal activities. For example, the administration of many marketing agreements and surplus control programs under the Agricultural Adjustment Administration would be handicapped or impossible without inspection, and purchases by the Surplus Marketing Administration are based upon official inspection certificates.

Some of the regulatory acts administered by the Agricultural Marketing Service could not be administered successfully without the grading and inspection service. For example, the inspection certificate

constitutes the principal evidence upon which a decision can be made under the Perishable Agricultural Commodities Act. Certain requirements of foreign governments with respect to the export shipments could not be met without this service nor could the Export Apple and Pear Act be administered.

Plan and Progress of Work: Inspection and grading work conducted under this appropriation is permissive in character, the Federal inspector making the inspection only at the request of an interested party. A large part of the work is conducted on a cooperative basis under which the Federal Service licenses and supervises the graders and the conduct of the work in general. The appropriation act for this activity provides that a reasonable fee shall be charged for the service which will, as nearly as may be, cover the cost of the services performed.

Revenue: For several years fees thus collected have amounted to approximately 75 percent of the appropriations under this item. In 1939-40 the fees returned to the Treasury amounted to about 85 percent of the appropriation.

The work is conducted under the following projects:

Project 1. Inspection and Certification of Fruits and Vegetables:

Inspection of these commodities is carried on at the receiving markets and at local shipping points. The receiving market work is conducted entirely by Federal inspectors. The shipping point inspection constitutes the largest volume of the work and is carried on in cooperation with the State agencies. In the conduct of the cooperative work graders are licensed by the Agricultural Marketing Service, and their work supervised by a Federal supervising grader.

Inspection is based upon the Federal grades for each product. The grades used are those established under the research project. Uniformity of interpretation of these standards is secured through close supervision by the head graders and by observation carried on under the direction of the research worker.

Permanent branch offices are maintained at 54 locations throughout the country. In addition, inspections are made in the processing and shipping areas in more than 40 different States. The service has grown steadily from year to year, until from 40 to 45 percent of the rail movement of fresh fruits and vegetables is now inspected annually. During the past fiscal year 548,544 carloads were inspected at shipping points and 47,256 carloads at receiving markets, or a total of 595,800 cars in all, an increase of 23 percent over the average for the preceding 5-year period.

The inspection service is essential to the administration of the Perishable Agricultural Commodities and Produce Agency Acts, and the Export Apple and Pear Act. It is also used extensively in the Government purchase of surplus commodities and in the administration of many of the marketing agreements under the Agricultural Adjustment Act.

Inspection of raw products received at canning plants is increasing. Contracts for sale on this basis prevent many disagreements between the producer and canning plant and assure the farmer a price commensurate with the quality of the product delivered.

Offices are maintained at Albany, N. Y.; Atlanta, Ga.; Baltimore, Md.; Boise, Idaho; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Cleveland, and Columbus, Ohio; Columbia, S. Car.; Denver, Colo.; Detroit, Mich.; East Providence, R. I.; Fargo, N. Dak.; Fort Worth, Texas; Great Lakes, Ill.; Harlingen, Texas; Harrisburg, Pa.; Hartford, Conn.; Houston, Texas; Indianapolis, Ind.; Jacksonville, Fla.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Miami, Fla.; Milwaukee, Wis.; Minneapolis, Minn.; Newark, N. J.; New Haven, Conn.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Oklahoma City, Okla.; Philadelphia, Pa.; Phoenix, Ariz.; Pittsburgh, Pa.; Portland, Oreg.; Rochester, N. Y.; Sacramento, Calif.; St. Louis, Mo.; Salem, Oreg.; Salt Lake City, Utah; San Diego, San Francisco, and San Pedro, Calif.; Seattle, Wash.; Tampa, Fla.; Trenton, N. J.; Tulsa, Okla.; University, La.; Vallejo, Calif.; Washington, D. C.; Winter Haven, Fla.; and Yakima, Wash.

Project 2. Inspection and Certification of Processed Fruits and Vegetables:

Inspection work on processed fruits and vegetables is one of the more recent projects undertaken. This work is increasing rapidly both in volume of work done and importance from the standpoint of the fruit and vegetable industry as a whole. Inspection laboratories are established at Boston, Mass.; Baltimore, Md.; Chicago, Ill.; Cleveland and Columbus, Ohio; Indianapolis, Ind.; Jacksonville, Fla.; Newark, N. J.; New York, N. Y.; Oklahoma City, Okla.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Oreg.; Salt Lake City, Utah; Seattle, Wash.; San Francisco, Calif.; and Washington, D. C. where canners and other may either submit samples for inspection and grading or official samples drawn by qualified inspectors may be graded. The certificates issued are frequently made the basis for sale or the settlement of disputes between buyer and seller. The use of this service by Federal, State, and municipal institutions as a basis for buying has increased greatly. The business manager of one State advised that purchases on the basis of official grade certificates has resulted in a savings of \$50,000 in a single year. Last year the State of Ohio requested grading on all purchases of several products. Canners and associations of producers use the grade certificates in connection with the use of the products as collateral for loans. Products stored under the provisions of the Federal Warehouse Act and loans made on the basis of warehouse receipts are predicated upon the grade of the products stored.

A recent development and one which is attracting much attention is the provision for continuous factory inspection of canning plants. Under this plan an inspector is detailed to a plant and the entire operation proceeds under his continuous observation. This work was originally started with the Michigan Cherry Producers Cooperative. During the past year the inauguration of continuous inspection in several large canning factories gave a striking impetus to the use of official grade

statements on the labels. This practice is yet in the experimental stage but promises to be of great importance as the operating procedure is perfected.

Project 3. Inspection and Certification of Dairy and Poultry Products:

There has been a gradual but rather steady growth in this work. In all instances it is now carried on under cooperative agreements primarily with official State agencies but also with a few other agencies such as poultry improvement associations and the American Dry Milk Institute.

The principal dairy and poultry products for which grading service is rendered are butter, cheese, eggs, dressed chickens and dressed turkeys. In addition there is an important and increasing quantity of dressed poultry inspected for condition and wholesomeness. A small amount of live poultry grading has likewise been undertaken. A relatively small amount of frozen eggs is inspected for condition only. Dry skim milk and evaporated milk, purchased by Federal activities and recently by the British Purchasing Commission, have also been sampled and graded.

The grading work is carried on in a number of important terminal markets such as New York, Boston, Philadelphia, Chicago, St. Louis, Los Angeles, San Francisco, Portland and Seattle. In addition grading is rendered at a number of butter concentration points in dairy States such as Iowa and Minnesota and a considerable number of country egg grading stations have been established at points in Virginia, Maryland, Pennsylvania, Ohio, Michigan, Illinois, North Carolina, Florida and Nebraska.

The plan of operation includes the establishment of regional supervisors for the grading of dairy products and similar regional supervisors for the grading of poultry products. Regional supervisors are located on the Pacific Coast, in the Northeast and in the Middle West. It is the duty of these regional supervisors to contact the graders and, particularly in the case of egg grading, the Federal-State supervisors who are responsible for the work of the graders at the grading stations in their particular States. The utilization of regional supervisors is a very important part of the work since it is the means by which reasonable uniformity in the grading work is attained.

The following table shows the quantity of products graded or inspected during the fiscal year 1940:

<u>Commodity</u>	<u>Quantity</u>
Butter (graded)	245,066,927 lbs.
Cheese (graded)	5,516,607 "
Eggs (graded)	2,776,532 cases
Dressed poultry (graded)	15,875,359 lbs.
Dressed poultry (inspected)	70,386,026 "
Live poultry (graded)	753,674 "
Dressed turkeys (graded)	37,659,686 "
Frozen eggs (inspected)	774,480 "
Dry skim milk (graded)	5,000,000 "
Evaporated milk (graded)	43,500,000 "

Project 4. Inspection and Certification of Rice, Hay, Beans, Etc., for Class Quality and Condition:

(a) Rice

The inspection of rice on a permissive basis is conducted in the States of Louisiana, Texas, Arkansas and California. In the Southern States the inspection work is done by Federal inspectors who issue Federal certificates and by Federal-State inspectors licensed by the Department to make inspections on the basis of United States grades and issue Federal-State inspection certificates. In California the rice inspection work is performed by Federal-State inspectors only. Although the rice inspection service is confined to limited areas the work is highly important to the industry in those areas. In addition to the inspections that are made for regular commercial purposes, the service is used by Government buying agencies, both State and Federal, and plays an important part in the broader programs of the Department under the Agricultural Adjustment Administration.

The work under this project consists of the actual making of inspections by Federal and Federal-State inspectors and the supervision of the work of these inspectors. The service is conducted on rough, brown and milled rice.

The amount of rice inspected increased from approximately 115,513,000 pounds in 1936 to 258,472,000 pounds in 1939. During the first nine months of the fiscal year ending June 30, 1940, 195,374,000 pounds were inspected. (These figures do not include 64,190,000 pounds of rice inspected for the Federal Surplus Commodities Corporation in 1938 and 3,620,000 pounds inspected for that corporation in 1939.) The number of rice inspection certificates issued in 1936 totaled 4,693 compared with 8,008 in 1939 and 5,260 during the first nine months of the fiscal year 1940.

(b) Hay

Hay supervision in the field is handled by Federal employees who devote only a small portion of their time to the work. They supervise the work of 36 civilian inspectors at 17 terminal markets in 8 States where country shipping point inspection is available. They also supervise the work of 88 licensed veterinary officers of the Army and 9 veterinary officers of the National Guard. Department employees in Washington inspect hay and straw in the District of Columbia and adjacent territory where all hay consumed by Government agencies is purchased on the basis of United States grades.

United States grades for hay are the only quality specifications in use for hay at the present time. While many States have adopted United States grades as official State standards, Federal-State inspection is now available in only 8 important hay producing States.

(c) Beans

The object of the dry bean inspection service is to provide uniform unbiased inspection for growers, dealers, and consumers of beans under centralized Federal supervision.

During the last fiscal year 4,331 inspections were made. There was an increased demand for inspection for beans sold for export. Growers frequently have beans inspected for dockage or sound merchantable beans before they are recleaned or processed. This enables the buyers to settle with growers on an equitable basis. All Federal agencies and many State agencies base their purchases of beans on United States grades.

The work of the 32 inspectors is supervised by 6 part time Federal supervisors located in important bean producing and consuming areas. In order to maintain uniformity among the licensed inspectors and their ability to apply the grade accurately their inspections are checked by the supervisors at frequent intervals.

(d) Whole Peas and Split Peas.

(a) To provide unbiased and central supervised inspection of peas for farmers and others based on United States standards; (b) to supervise federally licensed pea inspectors; (c) to handle appeals.

(e) Seed Verification

Under the seed verification service wholesale seed dealers are required to keep complete records for all alfalfa and red clover seed handled by them. Country shippers who sell these kinds of seeds to verified origin dealers and furnish declaration of origin are also required to keep records of their transactions. These records enable inspectors to trace the origin of the seed from producer to consumer.

Hardiness of alfalfa and red clover seed is influenced by the origin of the seed. For many years much unhardy seed of these kinds was sold in northern States without regard to origin. This resulted in loss to farmers. The practice has not been entirely eliminated but progress in that direction has been marked since the Seed Verification Service was inaugurated. During the past year about 79,414,900 pounds of seed were verified as to origin.

Project 5. Grading and Certification of Livestock and Meat:

The work conducted under this project consists of the grading of meat; its identification by grade; and certification for kind, class, grade and condition. The work was started in 1927. The meat grading work is divided into two general lines of activity. (1) The commercial grading and stamping of meats to provide for its identification by grade when sold to consumers, and (2) the grading of meats for compliance with either Federal standards or specifications that are based on Federal standards, for delivery to Federal, State, County and Municipal institutions who purchase their meats on the basis of contract awards.

The meat grading and stamping service is intended to provide a means by which consumers may select the grade of meat they wish to purchase and that will insure the delivery of high quality meats to those who demand them. It prevents the substitution of low grade for high grade meat and facilitates the sale of meat on the basis of its quality and therefore its relative value. The service is of benefit primarily to livestock producers and to consumers. It benefits livestock producers in that it promotes the sale of meat on the basis of its relative quality and provides a means by which consumer preference may be reflected back to the livestock market and establish the price relationship that exists between the different classes and grades of livestock.

Meat grading is of most significance in connection with beef. This is because beef possesses a wider range in quality than other meats and because a relatively large percentage of the total amount of beef produced consists of the lower grades. In the fiscal year 1940 the total amount of beef graded and stamped according to Federal standards was 544,810,856 pounds. The amount of beef graded constituted a relatively large percentage of the beef of the higher grades produced in Federally inspected plants. There were 640,393,521 pounds of all kinds of meats graded in the fiscal year 1940.

Meat grading offices are now located in the following cities: Baltimore, Boston, Chicago, Cincinnati, Cleveland, Columbus, Des Moines, Detroit, Dubuque, Indianapolis, Kansas City, Los Angeles, National Stockyards (St. Louis), New York, Oklahoma City, Omaha, Philadelphia, Phoenix, San Francisco, Seattle, South St. Joseph, South St. Paul, Washington, Waterloo, Iowa, and Wichita, Kansas.

Project 6. Inspection of Cottonseed:

In those sections where cottonseed sampling and grading is done under Federal supervision licensed and bonded samplers obtain representative samples of each lot of cottonseed delivered to mills in accordance with procedures established by the Agricultural Marketing Service. Inspectors regularly employed by the Service supervise the work of these licensed samplers. Cottonseed sampling is done at the oil mill by Federally licensed samplers. Grading is done by independent Federally licensed chemists. Since the oil mill has a financial interest in seed sampling, supervision of sampling at the mill is necessary to insure representative samples. Supervision is also necessary to insure standardized methods of analysis and accurate grading by licensed chemists.

The cottonseed inspection service is coordinated with cottonseed market news so that they may be used by farmers in selling cottonseed to ginneries. Cottonseed production totaled 5,260,000 tons in 1939. Of this quantity 4,160,000 tons, or nearly 80 percent, was sold to oil mills for crushing and 20 percent retained on farms for seed, feed, and fertilizer. Of the total quantity delivered to oil mills it is estimated that from 1,600,000 tons to 2,000,000 tons were marketed on the basis of United States standard grades during 1939-40. Most of this grading work was done in the Southeastern and South-Central cotton-growing States but

plans are now under way to extend the work to Texas. The spread between the price received by farmers for cottonseed and the value of cottonseed products produced by oil mills amounted to about \$12.50 per ton crushed in 1938-39 against \$14 in 1937-38 and a 10-year (1928-37) average of \$14. Although there are numerous factors affecting the spread between the farm price of cottonseed and the value of cottonseed products, cottonseed grading tends to lower this spread by increasing oil-mill efficiency and lowering costs of handling seed by reducing the risks mills must run in buying ungraded cottonseed.

SUPPLEMENTAL FUNDS

Direct Allotments

Projects	Obligated 1940	Estimated obligations 1941	Estimated obligations 1942
<u>Incidental Expenses of the Army</u> <u>(transfer from War Department):</u> Inspection of hay and supervision of Army hay inspectors	\$2,250	\$3,250	\$3,250

(e) MARKETING FARM PRODUCTS

Appropriation Act, 1941.....\$400,000
 Budget estimate, 1942.....400,000

PROJECT STATEMENT

Projects	1940	1941 (Estimated)	1942 (Estimated)
1. Fruits and vegetables, fresh, marketing research on	\$59,920	\$44,830	\$44,830
2. Standardization of processed fruits and vegetables.....	3,000	3,000	3,000
3. Livestock, meats and wool, marketing research on.....	78,298	72,100	72,100
4. Dairy and poultry products, marketing research on.....	21,582	21,900	21,900
5. Standardization and market- ing research on grain, hay, beans and seed.....	96,579	98,000	98,000
6. Cotton quality standardiza- tion and marketing research.	140,730	134,650	134,650
7. Interpretation and dissem- ination of information.....	25,069	25,520	25,520
Unobligated balance.....	6,292	- -	- -
Total.....	431,470	400,000	400,000

WORK UNDER THIS APPROPRIATION

Object: The work under this appropriation falls into two broad but closely related categories: (1) the establishment of quality grades for agricultural products and (2) investigations focused primarily upon the problems related to marketing methods and practices, including the distribution and physical handling of farm products in the marketing process. The object is to carry out investigations covering the marketing and distribution of farm products with a view toward aiding producers and others in meeting the many problems involved in the marketing of agricultural products.

The Problem: The problems involved in marketing are constantly changing. New and improved varieties of farm products, changes in market demand and preferences, changes in marketing methods requiring changes in the methods of packing, packaging or handling of agricultural products are some of the many and varied problems that must be met in the research program conducted under this project. Farm groups, Federal and State purchasing agencies, extension agencies working with farmers, individual farmers, and many others are constantly presenting new marketing problems

that require extensive investigation for proper solution. A few of the requests for assistance received during the past year illustrate the types of problems presented. Potato producers in Idaho felt that the present potato grades, though long established, were not suited to the "Idaho Baker" type of potato. This will require careful study of this particular type of potato in order to determine what changes in the grades are needed. Studies of the grades of Florida oranges have resulted in practical standards for the internal quality and content of juice. The recent introduction of a grain sizing device for use in grain elevators and processing plants now presents a serious problem in the grading and merchandising of rye.

Problems that arise in connection with the conduct of the various inspection services constitute an important part of the work done. The development of new and simplified methods for grading and preparation of physical forms for the guidance of the grading and inspection forces are indicative of some of the work done in this field. The highest type of inventive genius is required to arrive at an objective method of measuring certain grade factors and variations in quality.

With the recent defense program there are a large number of problems being raised that call for immediate attention. Grade specifications of additional products are needed, particularly with respect to canned and processed foods.

Significance: This is the only appropriation available to this Service for the specific purpose of studying marketing and distributing problems. During the past year, sales of agricultural products returned a cash income to farmers of more than \$7,700,000,000. All of the work done under this appropriation is designed to assist producers in the marketing of this large volume of agricultural products.

There are a number of Acts of Congress that require that Federal grades and standards be used in marketing. The Grain Standards Act and the Cotton Standards Act provide that the Federal grades are the only grades that may be used legally in interstate and foreign commerce. The administration of the Perishable Agricultural Commodities Act and the Produce Agency Act could not be effective without the use of uniform standards. The Export Apple and Pear Act requires the use of Federal grades. The whole grading and inspection program for agricultural commodities administered by the Department is based upon a system of Federal grades. This appropriation provides the means by which these grades are established and kept abreast of the changing marketing methods and practices.

The work done under this appropriation is important too in the conduct of the market news activities of the Department. The market reporters must be familiar with the grades established and adept in their interpretation in order that reports may be comparable from day to day on the same market and as between markets. The coordination of the research work with the grading work and market reporting results also in direct benefit to farmers.

A specific example of direct assistance that added dollars to the producers income might be cited. An inspector on the New York market noted that buyers were discounting watermelons about \$50 per car when there was evidence that the load had shifted in transit. This information was passed back to the shipping point, where improved methods of loading were worked out and put into practice with consequent saving to shippers. During the course of a season many items, small individually, but bulking large in total, are brought to the attention of shippers with resultant savings in marketing costs.

Additional significance is being attached to the work conducted under this appropriation by reason of the National Defense Program. It may be recalled that during the last war the Department was requested to establish standards for potatoes. They were then made mandatory in market transactions. Standards for several more agricultural products followed. At the present time a considerable added responsibility is being placed upon the Department for establishment of standards particularly in the field of processed foods. Both the Army and Navy are making more extensive use of the standards as a basis for procurement of food supplies.

Plan and Progress of Work: The work is divided along commodity lines. Under each project marketing and standardization research is conducted for a group of related commodities.

1. Fresh fruits and vegetables:
2. Processed fruits and vegetables:

The work is organized in two units. The fresh fruits and vegetables unit conducts research on grades and standards and marketing methods on those commodities marketed in the fresh state. The processed food unit conducts the research on commodities after they are processed. In both cases the technical personnel conducts the research necessary to the establishment of the grades, and through contacts in the producing areas and in the markets collects the additional information necessary in the preparation of marketing bulletins. The specialists are frequently called upon to meet with farmers and others to demonstrate the grades and methods of handling, packing and packaging. Practical models and photographs are prepared for use by the inspection forces in the interpretation of grades. This work, along with the assistance given by the technical research worker is highly important in keeping the inspection forces scattered throughout the country in uniformity in the actual grading work.

Some 99 standards for 65 unprocessed commodities have been established. Of this number 17 are for commodities such as peanuts, walnuts, pecans, honey, maple sirup, and mushrooms. During the year 12 of these standards have been revised and standards for 4 additional commodities have been issued. Research has been conducted on 5 other commodities for which standards will be issued later.

For processed fruits and vegetables, 42 standards have been issued. Eleven were revised during the past fiscal year and 7 issued for new commodities. Research work is being conducted on standards for 12 additional commodities.

During the year research was conducted in Chicago to ascertain from retailers what changes in the potato grades should be made to make them more satisfactory to consumers. Two additional technical men were employed under an increase in funds allowed in the 1940 appropriation for work on this subject. The data is being analyzed and this fall and winter investigations will be made at shipping points to ascertain from producers and shippers if changes can be made in the grades which will make them more satisfactory to consumers. Study of the grades of Florida oranges has resulted in the development of a practical method for the inclusion of internal quality of the fruit as a grading factor.

Bulletins issued during the year included 2 which were printed and 3 which were mimeographed. Requests for these bulletins came from people in many types of business. As usual the principal demand is from county agents dealing directly with farmers, Smith-Hughes teachers in the rural schools, individual farmers, and shippers and receivers of fruits and vegetables. The demand for demonstrational work by producers and their organizations was more than the present technical force could supply. In addition to the five new bulletins issued this year it was necessary to order the fifth reprint of one bulletin - Fruit and Vegetable Buying Guide for Consumers. To date 27,000 copies of this bulletin have been distributed on request.

3. Livestock, Meats and Wool:

Livestock and Meat Standardization: Standards have been established for slaughter livestock and for stocker and feeder cattle and calves and sheep and lambs. Standards have also been established for carcass meats, and progress is being made on the development of standards for cut and cured meats. Revisions will be made in established standards as production practices, consumer preferences and changes in methods of distribution indicate necessary. For example, the standards for beef were recently revised in order that they would conform more closely to practices in the merchandising of beef and be better adapted for consumer use in the identification of beef by grade when sold at retail. The revised standards provide for 10 wholesale grades that correspond with the 10 grades used by the industry in wholesale trading. The stamping is, however, intended primarily to enable consumers to identify quality. Separate standards for each class were combined into a single standard so that consumers can select beef on the basis of quality or grade by name only. Studies are being conducted to determine the relationship between the grades of slaughter lambs and selling prices and between the grades of carcass lambs and selling prices in order to determine what changes, if any, should be made in the grade standards to make them conform more closely with practices in selling lambs. Studies are being conducted to develop an objective basis for grades in order to eliminate insofar as possible differences between graders in the application of the standards, seasonal variations, and other

factors that may be responsible for inconsistencies in grading. These studies involve the determination of the amount of lean, fat, and bone in carcass meats on the basis of grade; the percentage of the principal cuts in each respective grade; and other measurable differences between grade. Information of this kind is essential in familiarizing consumers with the grade standards and the characteristics and relative value of each grade.

Grading Demonstrations: Livestock grading demonstrations were held in a number of livestock producing States. They were conducted before groups of 4-H and FFA Club members, vocational agricultural students, and others in Minnesota, Missouri, Utah, Washington, Idaho, Virginia, West Virginia, Illinois, Kentucky, Tennessee, Georgia, Florida, Louisiana, Mississippi and Texas. Carcass grading demonstrations were conducted in connection with a number of such livestock grading demonstrations. Meat grading demonstrations were also conducted in many of the principal meat consuming centers. Approximately 200,000 lambs were graded by State marketing officials according to Federal standards.

Wool Standards: Standards for wool tops, in which 8 of the 13 grades are stated in mathematical terms according to microscopic measurements of the fibers, were promulgated in March 1939. These standards became effective January 1, 1940, on which date they became the basis for trading in wool top futures as required by the Commodity Exchange Act. During the past year, examinations and tests were made of many lots of commercial tops to obtain suitable standard types conforming to the requirements for distribution as practical forms for exchange and industry use. Sale of these practical forms was begun January 1, 1940. Further work is being done to develop measurement specifications for the 5 grades of the series not yet so defined.

Wool Shrinkage: The value of grease wool is largely determined by (1) the clean dry content and (2) the fineness of the wool. At the present time growers have no means of obtaining reliable information relative to the grade and shrinkage of their clips. This information, along with market reports, could be provided producers who would be able to better appraise the value of their wool. Without such information they are at present unable to tell whether the selling price is in line with its true value.

If reliable methods of sampling and shrinkage determination are established, buyers of the wool as well as growers would be benefited. At present there is considerable uncertainty attached to the estimation of the shrinkage of clips of wool, and the buyers tend to bid low because of the difficulty of accurately estimating shrinkage. Reliable methods once established would be of help throughout the entire wool industry.

At present, sampling is being conducted in Colorado, Idaho, Montana, Utah, and Wyoming. Specialists of the Department, in cooperation with State specialists, are sampling clips at the sheering sheds and at warehouses according to methods which are planned to

insure representativeness. Samples are shipped to the laboratory of the Department at Washington, to State university laboratories, and to commercial scouring plants for the determination of their shrinkages. During the past year, 46 clips were studied in the Western States, requiring the laboratory testing of approximately 5,000 pounds of wool and the commercial testing of approximately 6,000 pounds.

Under cooperative arrangements with a leading manufacturer tests have been undertaken on graded unblended lots, in which various methods of sampling are being employed, for the comparison of the shrinkages of the samples with the bulk lots. Such comparisons have been made up to the present time on several lots aggregating more than 300,000 pounds. Investigations of some sampling methods have shown that samples of about 2% will agree in shrinkage to within 1% of the shrinkage of the sample from which they were drawn. No single method of sampling, however, has always given consistently accurate results. Further investigations are being conducted to perfect the method.

Every effort is being made to keep the work on an entirely practical basis. Since the aim of this work is to give the producer an estimate of the shrinkage of a clip by means of a sample, the sample shrinkages are compared wherever possible with the shrinkages of the entire clip. When this information is not available, efforts are made to draw large quantities of wool from the clip for testing by commercial scourer. The sample shrinkages are then compared with the shrinkage of the large amount of wool, as determined by commercial scourer.

In comparing laboratory shrinkages on samples representative of an entire clip with shrinkages as determined by a commercial scourer on large amounts of wool drawn from the clip, improved agreement has been found as the work progressed. As the shrinkage work has continued and as sources of error and disagreement have been removed, the accuracy of shrinkage determinations has improved.

4. Dairy and Poultry Products:

The work is conducted under three projects as follows: (1) research on dairy products, (2) research on eggs, (3) research on live and dressed poultry. All three units are closely coordinated and in the field, inspection and grading work may be done on all three by the same inspector. Tentative standards for live and dressed poultry including turkeys have been issued. The changes that are taking place in the marketing of live poultry, particularly through auction markets, and the increase in the practice of marketing of eviscerated poultry in ready-to-cook form creates a need for further study of these standards.

Considerable assistance has been rendered farmers and creameries in the quality improvement program on butter. This work helps producers to improve the quality of cream delivered to the creamery making it

possible to produce a higher quality of butter, thus returning better prices to the producer. Application of the egg grades in country grading stations has helped producers to secure prices commensurate with the quality produced.

While the studies conducted are basic to the inspection activities of the Service, the results obtained are of direct value to farmers in aiding them to improve the methods of handling their produce. The factors which constitute grade or quality are of primary importance to the farmer in his production and marketing program. The results of the studies are issued in bulletin form and have proven of assistance to farmers, farm organizations, extension workers, and others in their effort to improve the preparation of farm produce for market.

5. Grain, Hay, Beans and Seed:

Grain: The project includes study of the production, transportation, handling and storage of grain, and marketing practices in order that the standards may be correlated with existing trade practices; in order to point out to producers and dealers methods by which losses occasioned by faulty production and marketing practices may be avoided; and in order to provide information to grain inspection departments, agricultural chemists, agronomists, and others with respect to precise laboratory methods for evaluating grain and its processed products for commercial purposes.

Proposals for improvements in the standards or in the methods of their application are made frequently by producers and users, by commercial grain laboratory men, by licensed grain inspectors, and by men within the Department. These proposals, if they appear to have merit, are studied carefully in the light of previous information, and some proposals, usually after revision, pass through practical tests which finally determine whether they should be adopted. Improvements which have been adopted in this manner in recent years include standards for malting barley, a rapid electrical test for moisture, a provision that moisture shall be a special grading factor instead of a degrading factor, separation of the durum wheats into two classes, Durum and Red Durum, because the former only is suited for macaroni, spaghetti and similar products, while the Red Durum is used principally in poultry feeds and breakfast foods.

The recent introduction of a grain sizing device for use in grain elevators and processing plants now presents a serious problem in the grading and merchandising of rye. This new device provides quick and inexpensive removal of small rye kernels from the average rye. These small kernels of rye, being rye, can be sold as rye, delivered on futures contracts for rye, and even though this small-kernelled rye is not suitable for either milling or distilling, it functions as the basis for all sales of rye by the producers. Certain difficulties have been encountered in the solution of this problem but it is expected that it will be solved before the marketing of the 1942 crop.

Texture has been used as a factor in the grading of wheat since the standards were established in 1917. Although texture is a fairly satisfactory measure of certain properties in wheat it has been considered inferior to the determination of protein content. The protein test, however, has always been too complicated and expensive to be of use under present methods of marketing grain. For this and other reasons the protein test has not been promulgated as a factor in grain standards. Commercial chemists, State experiment stations, and department research men have studied this problem for years. In 1940 one of the men in the grain standards research laboratory developed a new method for the rapid determination of protein content of flour. It is possible that this same method may be applicable to grain which would make it practical to use protein as one of the factors in determining grain standards. However, it will require at least two or three years time during which the method must be thoroughly tested in actual field operations before changes in the grain standards can be proposed safely.

The malting barley standards segregate an important portion of the barley crop and place it in a premium subclass. The malting barley standards are fairly satisfactory even though they do not provide at present for the important information on germinating ability and diastatic power. A quick, simple method developed in this laboratory in 1940 indicates diastatic power of the barley and a similar or modified method may provide a good measure of germination.

Research work is conducted also with grain grading equipment to improve present equipment and to devise new equipment which will provide uniform inspection results, expedite the inspection process, and lower the cost to the producer. Recent developments include the Federal Dockage Tester, grain sizing device, and methods for making quick and automatic weighings of samples and portions of samples in connection with the inspection and grading of grain.

Rice: Rice is produced in the States of California, Arkansas, Louisiana and Texas. Uniform standards which reflect quality are essential in rice commerce. The formulation of standards through research has helped to acquaint rice growers with those quality factors that are associated with market value and are influenced by production practices. This has enabled growers to adjust their production practices in an effort to produce more rice that would meet the requirements of the premium grades under United States standards.

Studies are conducted of existing rice standards and methods of handling rice in relation to the market value in order to make the standards more useful to producers, millers, and dealers including exporters. Studies include such things as improvement of methods and tests for the determination of milling quality in rough rice, and increasing the accuracy of electric meter conversion charts. These studies are necessary to meet ever changing production, handling, storage, processing, and marketing practices for rice.

Hay, Beans and Seed: Hay - The hay standards are used as a basis for all contracts by the U. S. Army and practically all other Government agencies, inspection being used wherever licensed inspectors are available.

The principal factors which indicate quality in most types of hay have been rather thoroughly studied and have been used as the basis of standards which have already been published. Condition factors, such as moisture in hay and various states of heating are factors which need further study in order to use them in a practical manner in hay inspection. The various gradations of heating can be determined by the actual temperature within the bale or lot of hay, but further information with reference to the temperature to which hay can rise without becoming musty and moldy is being studied at present.

An important phase of work during the past several years has been the preparation of type samples for use by agricultural college teachers, county agents, Smith-Hughes teachers and others as a basis for educational work in hay quality. During the past year 3,000 type samples were prepared and distributed, approximately 500 of these going to teachers in the agricultural colleges, 1,600 to county agents, 500 to State extension specialists and 400 to Smith-Hughes teachers in various States. During the year 3 schools for training inspectors were conducted. Two of these were the annual schools conducted in cooperation with the Army Veterinary School, Army Medical Center, Washington, D. C., and were attended by 6 officers and 11 noncommissioned officers of the U. S. Army.

The results of the studies in hay standardization were published during the past year in Miscellaneous Publication 363 "Hay Quality in Relation to Production and Feed Value", Farmers Bulletin 1839 "The Uses of Alfalfa", which is a revision of Farmers Bulletin 1229 "Utilization of Alfalfa", mimeograph "Information on Hay Quality for the Dairy Industry", Handbook of Official Hay and Straw Standards revised and Hay Inspectors Manual revised.

Soybeans - The oil and protein studies for soybeans should be continued in an effort to determine whether oil and protein content are necessary standard factors or whether they should be included in certificates only as further evidence of quality. Additional chemical studies are needed in connection with types of damage found in soybeans. For example, it appears that if considerable heat damage occurs in soybeans this type of damage should be made a separate grading factor. Information on this point is not yet conclusive. Studies are being made of the relationship between immaturity in soybeans and the character of the oil and protein. A further study is necessary to determine the advisability of increasing the percentage of splits in each of the soybean grades. There is pressure from soybean shippers and exporters to bring this about. Up to now it has been felt that the percentage of splits should not be increased for fear that it might encourage careless harvesting and handling operations which would tend to increase the percentage of splits.

Approximately one-half of the oil mill operators, dealers, and exporters are now discounting foreign material on the basis of weight when the foreign material content is in excess of that permitted in the United States No. 2 grade. Studies should be made as early as possible to determine whether the standards should be revised to make foreign material a dockage factor instead of a grading factor in the official standards so as to conform to the practice of discounting foreign material in soybeans by weight.

The soybean standards are now mandatory under the Grain Standards Act.

6. Cotton Quality Standardization and Marketing Research:

Stated briefly, the work of this project has been to isolate and measure the various elements or properties that go to make up fiber quality, and to relate them to the grade and staple standards on the one hand, and the quality of the manufactured products on the other. To do this has meant the use of many tools and techniques of research. Some of these, it was found, could be adopted bodily from other fields of work; others were adopted and modified so that they might be applied to cotton fiber research; still others had to be planned, designed and constructed from the start. Among the original developments in the latter category arising out of the work of this project are the following important tools or methods of research: a disc colorimeter for making precision measurements of the color of cotton; an automatic photo-electric scanning device which gives much promise of making the determination of the grade of cotton more objective; a group of instruments for the determination of the strength of cotton fibers in bundle form. Specifications were prepared in the laboratory for standardized artificial daylight and practical equipment for obtaining it. Some of the instruments and methods have been modified and improved for use in cotton fiber research. All of this equipment and technique, and many others, are being used continuously on samples of cotton representing a wide range of qualities. As a result, many important findings have already been obtained which form a basis for the understanding of the importance of the various elements of quality which is being sought.

Manufacturing studies are being carried out in cooperation with the Bureau of Plant Industry and with the Clemson Agricultural College at Clemson, S. C., and the A & M College of Texas, at College Station, Texas. These investigations have an important bearing upon the standardization work. An important study conducted during the past year had to do with the comparative manufacturing results of comparable grades of irrigated and non-irrigated cotton. Manufacturers had claimed that irrigated cotton had more waste than rain grown cotton, produced yarn of less strength, produced yarn and fabrics that are unsatisfactory in appearance, is harder to spin and difficult to dye. These beliefs were naturally reflected in price differences. During the year tests were made of representative samples of cotton grown under rainfall and irrigated conditions. Preliminary results indicate that for cotton 1-1/16 and 1-3/32 the rainfall cotton yielded less manufacturing waste

than the irrigated cotton. But for the 1-1/8 inch cotton the irrigated cotton from California was superior. The tests further showed that there was no significant difference in the strength of yarns spun from the 1-1/16 and 1-3/32 inches produced under irrigation in California. But the 1-1/8 inch rainfall cotton was 4 percent stronger than the California cotton and in all staple lengths the rainfall cotton yielded yarns 2 to 11 percent stronger than the irrigated cotton from the Southwest. The test indicated that there was no difference in the difficulty of spinning and other processing between the irrigated and non-irrigated cotton. In only one case was the contention of the manufacturers borne out fully and that was in the appearance of the yarn and fabric. The rainfall cotton did excel in this particular. Other studies are now being conducted in the spinning laboratories relative to (1) influence of variety, location and season upon the spinning quality of upland cotton and upon the more important elements of fiber quality; (2) comparative manufacturing results of cottons compressed to different densities; and (3) comparative manufacturing results of different upland varieties of cotton and sea island cotton ginned on saw and roller gins.

The ginning investigations are conducted jointly with the Bureau of Agricultural Chemistry and Engineering at the Department's ginning laboratory, Stoneville, Miss., and in cooperation with various other Federal and State agricultural agencies, ginners, gin equipment manufacturers, cotton farmers, and cotton breeders. The technologists of this Service handle the cotton quality phases. The program of necessity is a long-time and continuing one including studies of the fundamental problems involved in seed cotton conditioning, cleaning, extracting, ginning, and the effect of varying the different operating elements on the quality of the lint, seed, and linters, and on power and other operating costs. Immediate and practical effect is being given to the research findings through the Federal-State gin extension program. The principal cotton States now have one or more full time engineering or cotton specialists taking the laboratory findings and recommendations directly back to ginners and cotton growers in their respective States. Periodic training schools are held at the ginning laboratory in order that these specialists may be properly equipped with the latest information relative to methods and equipment required for better ginning. Wide publicity is given to the findings through Department publications, ginning journals, press and radio releases, and speeches before groups composed of ginners and farmers. Among the more significant accomplishments of this work are the following: (1) the re-designing of seed-roll boxes and gin saws to permit of increasing saw speeds thereby increasing the capacity of the equipment and at the same time improving the quality of the ginning; (2) the designing of a drier for preconditioning damp or wet seed cotton to permit of satisfactory ginning (driers of this type have been installed in more than 1,100 gins which ginned more than one million bales of cotton during the 1939-40 cotton season); and (3) the development of an economical rubber packing as an effective substitute for the expensive imported walrus hide for roller gin coverings. Work on this project is now being concentrated on the problems of removal of motes, leaf, and other foreign matter from the lint prior to baling and improved capacity and performance of gins.

Systematic studies are being conducted to develop and make available to cotton growers, to public agencies, and to the cotton industry in general significant information relative to: (1) the manner in which cotton is packaged and handled between the cotton grower and the cotton mill, (2) marketing and handling costs, (3) the extent to which quality is recognized in purchases from cotton growers, and (4) the possibilities of developing more efficient methods of packaging, handling, and marketing the cotton crop. These studies are designed to provide a basis for effecting improvements in methods of handling cotton during the process of marketing and for an appraisal of the relative efficiencies of alternative methods of packaging, handling and marketing from the standpoint both of costs and of reflecting back to growers, in the form of premiums and discounts, manufacturers' preferences with respect to cotton quality. The analysis and interpretation of the data are made with a view to providing specific information relative to possibilities for improvements in marketing that will directly increase returns to growers. Many of these studies are made in cooperation with State Agricultural Experiment Stations.

Some of the studies now in progress are (1) the development of a system of permanent identification of individual cotton bales designed to facilitate the use throughout marketing channels of initial sampling and classification of the bale, to reduce the expense of duplication of such services, to fix responsibility for the manner in which bales are packed, and to enable producers or groups of producers who are growing superior cotton to secure proper recognition for their efforts; (2) an analysis of movement, points of concentration, and ultimate distribution of raw cotton for various producing areas as a basis for providing more effective marketing services; (3) an analysis of costs of services incident to marketing raw cotton as a basis for determining possibilities for reducing such costs; and (4) investigations of the factors responsible for and means of elimination of damage to cotton bales during the process of compression.

7. Interpretation of Dissemination of Information:

Material for public dissemination is cleared through the Marketing Information Section. It is reviewed for accuracy, adequacy and style and put in final form for release as bulletins, reports, handbooks, service and regulatory announcements, periodicals, feature articles, press statements and radio copy. Mailing lists are maintained for those who request specific reports, and the lists are circularized each year to prevent waste and duplicate distribution.

Salient facts are presented by radio, press, graphs and exhibits. Major reports are summarized for the press and radio use. Material for radio programs and market news flashes is prepared for distribution over national-wide and regional networks, and for local stations. Exhibits are planned for expositions and fairs. Photographs and charts are prepared for use in publications. In addition, an active "spot" information service is conducted in person, by correspondence, and by telephone and telegraph.

Increasing attention is given to meeting the demands for acquainting farmers and consumers with the services available to them, and for translating the results of research in standardization, grading, packing, packaging and other phases of marketing and distribution into the popular language of the lay reader. Increased emphasis also is placed upon the use of the radio on a national and regional basis.

(f) TOBACCO INSPECTION AND TOBACCO STOCKS AND STANDARDS ACTS

Appropriation Act, 1941.....\$433,000
 Budget estimate, 1942..... 433,000

PROJECT STATEMENT

Projects	1940	1941 (Estimated)	1942 (Estimated)
1. Inspection and certification of tobacco.....	\$374,000	\$369,000	\$369,000
2. Market news service on tobacco.....	50,000	50,000	50,000
3. Tobacco stocks and standards ..	16,133	14,000	14,000
Unobligated balance.....	2,054	-	-
Total.....	442,187	433,000	433,000

WORK UNDER THIS APPROPRIATION

General. Two statutes are administered under this appropriation: The Tobacco Inspection Act of 1935 (7 U.S.C. 511-511q), and the Tobacco Stocks and Standards Act of 1929 as amended (7 U.S.C. 501-503). Four closely coordinated activities are maintained as follows:

1. Developing standards for inspection and demonstration work.
2. Inspection at time of sale, and demonstrating grades to farmers.
3. Reporting prices by grades for benefit of farmers.
4. Reporting stocks of leaf tobacco on hand.

The main objective of these four projects is to help tobacco growers obtain better returns for their tobacco according to quality. This is accomplished by providing uniform standards which may be used by farmers in preparing their tobacco for market, official grading at the designated markets at time of sale, and market information as a price guide to farmers by which the fairness of the offer by the buyer can be judged. The effective-

ness of the whole program is materially increased by demonstration work with farmers and farm groups by giving them a definite guide for the proper preparation of their tobacco for sale.

Project 1. Inspection and Certification of Tobacco for Class, Quality and Condition:

Objective: To examine and certify the grades on lots of tobacco as offered for sale at auction, showing the quality of each lot according to a uniform system of grades.

The Problem: Tobacco is sold at auction very rapidly, sometimes as many as 500 baskets per hour. Generally accepted rate of sale is about 360 baskets an hour. Growers generally are not familiar with the numerous technical quality differentiations made by buyers. Auction warehouses publish only average selling prices covering all grades sold each day. They do not furnish prices by grades. Thus farmers are at a serious disadvantage in protecting their own interests because, without official inspection and market reports, they do not know the grade of their tobacco, or whether the bids made on their tobacco are comparable with those for similar qualities. The problem, therefore, is to place in the hands of growers at the time of the sale authoritative, unbiased information as to grade and price.

Significance:

(a) Approximately 90 percent of the tobacco grown in the United States is sold at public auction on about 136 markets. The marketing season is relatively short, ranging from four weeks in some districts to four to five months in other districts. The average value of the crop for the 5-year period 1935-1939 thus sold at auction amounts to \$252,183,000.00.

(b) Due to the rapidity of sales and other factors in the auction marketing system, the prices offered for tobacco of the same grade often show an unduly wide spread, with the result that many growers accept bids much below the current value of the tobacco. It is conservatively estimated that the losses to growers from the acceptance of unduly low bids aggregate from 5 to 10 million dollars annually.

(c) A further source of loss to growers in the sale of their crop lies in faulty preparation of their tobacco for market. An important phase of the inspection work is the explanation to growers of the elements of quality in grades of tobacco and the demonstration of proper tobacco-sorting methods to achieve uniformity of quality when the tobacco is presented for sale. This demonstration work is conducted by inspectors, usually during the period just after the tobacco has been cured and is being stripped and sorted for market. It has been productive of great benefits to growers, from 50 to 60 thousand of whom are reached annually.

Plan and Progress of Work: Tobacco markets are designated for tobacco inspection after referenda are held among growers as provided in Section 5 of the Tobacco Inspection Act. If two-thirds or more of the growers voting on a market favor inspection the market may be designated, and thereafter it is unlawful for tobacco to be sold on such market until it has been inspected by a representative of the Secretary of Agriculture. Inspectors begin working on the auction floors about an hour before sales begin. Each lot of tobacco offered for sale is examined without impeding the progress of the sale itself. The official grade is entered by the inspector on the warehouse sales ticket, one copy of which is collected after the sale for the purpose of preparing average prices according to grade. The information as to the grade of each lot of tobacco, coupled with the grade price information furnished in the official market report enables the grower to determine for himself whether he is being offered a price appropriate to the grade of his tobacco. If he finds he has not received an appropriate price, the information enables him to reject with a reasonable prospect of obtaining a better price upon resale. Thus benefits to growers are immediate and direct.

Forty-five markets out of a total of 136 have been designated for mandatory tobacco inspection.

The grade demonstration work with farmers and farm communities is an important activity because this work reaches farmers directly and through practical demonstrations, frequently on the farm, the application of the grades and handling methods are explained. The following tabulation shows the detailed classification of 1,973 demonstrations held during the fiscal year 1940 through which 55,575 farmers and agricultural students were contacted. This compares with 1,747 similar meetings and 53,745 attendance during the year previous. In addition, two group meetings were held with agricultural teachers who represented an enrollment of nearly 4,000 agricultural students. Short courses at six universities covering tobacco grades and grading were attended by 323 college students. Excluding the exhibits at some 24 county fairs and farm conventions, where an indeterminate number of farmers and farm people were contacted, there was a total of approximately 60,000 farm people contacted through this demonstration project. There were 86,687 pieces of literature distributed.

Tobacco Demonstration Work, 1940 (fiscal)

	<u>Number</u>	<u>Attendance</u>
Farm demonstrations.....	1,343	27,021
Farmers' meetings.....	126	5,304
School demonstrations.....	504	19,971
Farm visits & other contacts....	_____	<u>3,279</u>
Total.....	1,973	55,575

Actual instances where farmers have used the grades and the price reports as a basis for rejecting sale and reselling offer concrete

evidence of the value of this work to farmers. It would be a tremendous task to obtain a record of all such instances but during last year 423 such records were obtained and tabulated. The results of this sample of resales, which were taken at random, show that out of the 423 cases of rejected sales, 377 resales netted an increase of \$4.30 per 100 lbs., or 27.6 percent above the original sale. In 18 cases there was practically no betterment in the return and in 28 cases growers lost \$2.34 per 100 lbs. Summing up for the entire group of 423 sales, however, the increase amounted to about \$3.57 per 100 lbs., or a net gain of approximately 23 percent over the price originally offered.

Project 2. Market News Service on Tobacco:

Objective:

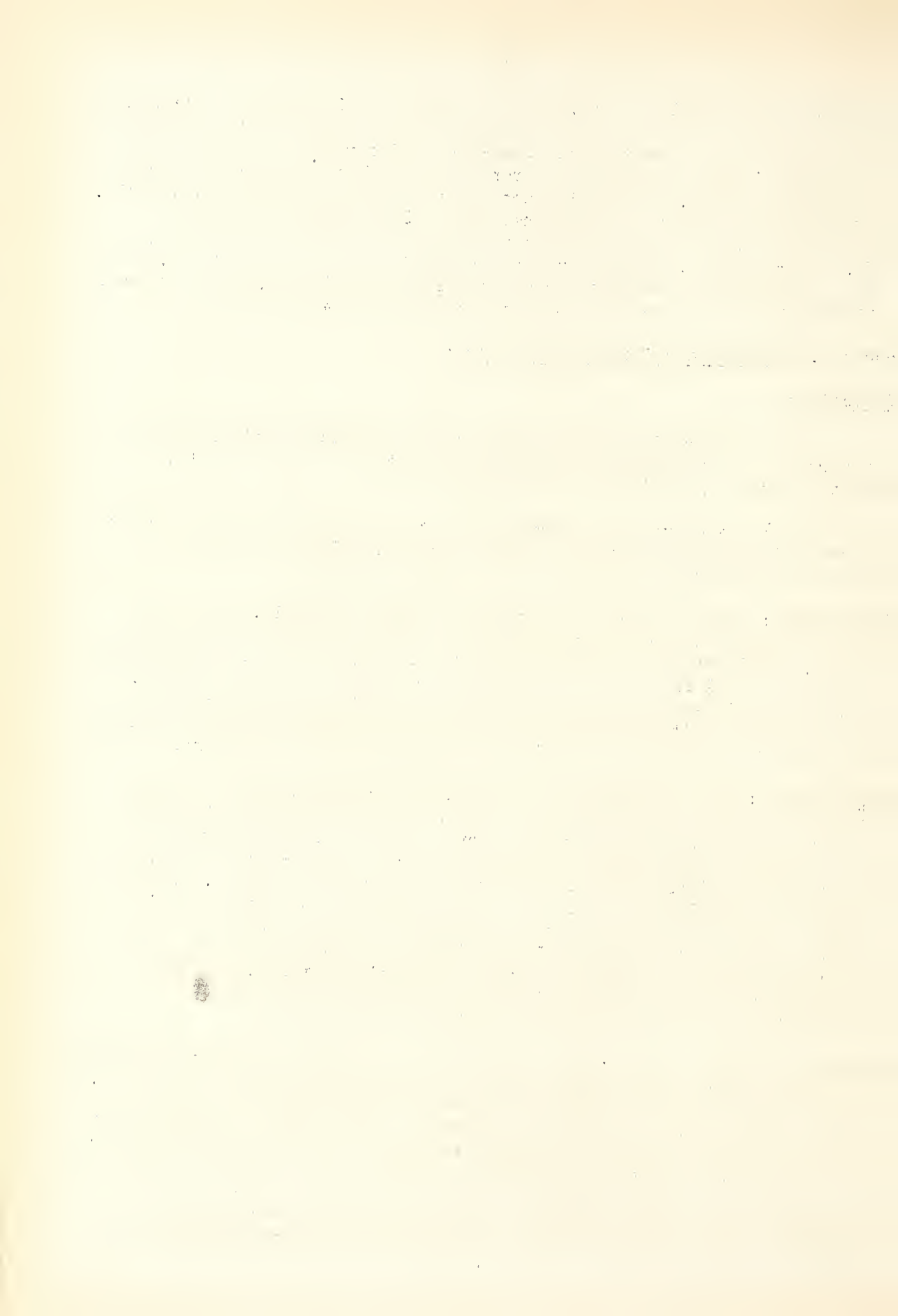
(a) To provide tobacco growers with a comprehensive, unbiased report showing the average and range of prices of tobacco of the various grades prevailing in the markets.

(b) To provide the reports promptly in order that the farmers patronizing any designated market may use the price information as a basis for determining the fairness of prices offered.

The Problem: Auction selling of tobacco proceeds rapidly. The usual rate is about one sale every 10 seconds. This means that a farmer's entire year's work may be auctioned off in a few minutes. The problem, therefore, is largely one of collecting and compiling the information and placing it in the hands of the farmer in time and in such form that he can use it effectively during the few minutes he has to decide whether or not he has been offered a fair price for his labors.

Significance: The significance of the market reporting work has been indicated under the inspection project. The market report is the means by which the farmer actually brings together the information furnished him on the grade of his product and interprets that information into the dollars and cents terms that mean cash income. In the absence of knowledge on the part of the grower of the grade of his tobacco and the market report to tell him the average selling price of that grade, he is definitely handicapped in making a decision as to whether or not to accept or reject the price offered. Conversely, where this information is available the grower has the necessary information on which he can make an intelligent decision.

Plan and Progress of Work: For the purpose of preparing market news reports, one carbon copy of each basket ticket is collected following the sale. These coupons, which show the grade and selling price of the tobacco, are assembled and arranged according to grades. The average prices for the different grades are computed, and mimeographed reports are immediately published for distribution among the growers on the warehouse floors and for dissemination also through the press and by radio. In operation, the market news offices receive the tickets for the morning sales by mid-afternoon and the computations and mimeographing are accomplished usually by eleven o'clock at night. Reports are delivered back to the



warehouses in the different markets by automobile early the following morning. The personnel requirements include boys to follow the sales and collect copies of the basket tickets, drivers to collect tickets from the markets and deliver them to the central office and also deliver the compiled reports back to the markets, assistant marketing specialists in charge of permanent offices, and junior marketing specialists in charge of temporary offices supervising the clerical force making computations and issuing reports.

Permanent offices have been established at Louisville, Ky., and Raleigh, N.C., and about 17 temporary offices have operated at various times. From the permanent and temporary offices over 600,000 daily and weekly reports were distributed to growers in fiscal year 1940, as compared with 189,000 in fiscal year 1938. It is significant to point out here that the graders on the market keep in close touch with the use of the reports by the farmers. Each grader carries a supply of the sheets with him and passes them out on request. A supply is also placed at a convenient place in the warehouse. Usually the full supply of reports is utilized and frequently passed on by one farmer to another for second and third hand use. Of the 600,000 copies issued last year about 300,000 were used in this way in the flue-cured area, 178,000 in the burley district, 56,000 in the fire-cured, and 13,000 in the dark air-cured districts. In addition to the regular mimeographed price reports, special releases were published in 1939 for a chain of radio stations covering the entire tobacco producing territory, and press releases were distributed through local newspapers and through the United Press and Associated Press.

In 1937 a series of tobacco market reviews was inaugurated and issued from Washington at the close of the marketing season of each class area. The scope of these reviews has been greatly expanded. Based on the information obtained from trade sources, State reports, and our own records, the 1939 series completely summarizes the market operations of all southern types.

Project 3. Tobacco Stocks and Standards:

(a) Standardization Research.

Objective: To subject the physical characteristics of tobacco to a critical and scientific analysis with reference to the basis for establishing and maintaining standard grades used in the inspection, demonstration, and market reporting work.

The Problem: Tobacco of any given type presents varying characteristics by which it is differentiated into as many as 80 different grades. The problem is to examine the different factors or elements which enter into the determination of quality of tobacco and to arrive at methods of making scientific measurements thereof, and to insure that the standard grades adequately recognize these basic factors.

Significance: There are 26 types of American-grown tobacco, grouped into 6 classes. Preparation of standard grades must be accomplished for

each class and in some cases for sub-classes or individual types. Numerous classes of tobacco have been standardized as to grades, but gradually these grades must be scrutinized with the view of making such amendments in the grade specifications as will better serve the purposes of official inspection service. Expansion of the tobacco inspection service is increasing the significance of standard grades in the field of commercial transactions in tobacco. Increased use of the standards as a basis for preparing tobacco for market is bringing about a material improvement in the tobacco offered at auctions. An important result of these improved practices is that prices to growers are more nearly in line with the quality of the tobacco offered for sale.

Plan and Progress of Work: In the earlier stages of the program standardization studies were necessarily conducted to a considerable extent in conjunction with the grading and inspection work. As the work in the markets increased and the grades put into more extensive use, it became apparent that intensive investigation into the factors affecting quality was necessary. Accordingly the strictly research activities have been set up as a definite function. The two fields--research and inspection--however, cannot be completely separated since the application of standards is largely dependent upon standardization research. It is therefore necessary in any activity of this sort that close coordination of the research and practical grading activity be maintained. Laboratory facilities are being enlarged and the problems that have arisen in the grading work are being subjected to comprehensive analysis. A typical example of problems that are being studied is the measuring of the thickness of leaf tissue of different types and grades. The measurements are being made to determine the relative thickness, and this information is being correlated in a practical way to determine the relation of tissue thickness to the quality of the leaf for different manufacturing purposes. Porosity of tobacco, which is an important factor, is being studied and tests are being made to ascertain just how different qualities of tobacco vary in moisture-holding capacity under different atmospheric conditions.

During the year, the standard grades have been revised for four types of fire-cured and three types of dark air-cured tobacco and other research work is being done on Maryland tobacco where tentative grades are now being tried out on the markets. Investigations of a general nature involving all classes and types of American-grown tobacco are being continued with a view of coordinating the standards for the several types into a closely related system of grades.

(b) Quarterly Stocks Reports.

Objective: To carry out the provisions of the Stocks and Standards Act as amended (7 U.S.C. 501-508) approved January 14, 1929, which directs the Secretary of Agriculture to collect and publish quarterly statistics of the stocks of tobacco in all forms in the United States and Puerto Rico held by other than original producers.

The Problem: The problem presented is to obtain accuracy on the part of dealers and manufacturers in their quarterly reports of holdings of leaf

tobacco in the form and detail required by the Stocks and Standards Act. There are 26 types of American-grown tobacco and several types of foreign-grown tobacco held in the United States although the inventories of no one dealer or manufacturer include all types. The law requires separation of the holdings as to types and also as to certain groups of grades which have to do with the utility of the tobacco for different manufacturing purposes. Due to the inter-relationships existing among the different elements of the tobacco trade as to the purchase and storage of tobacco, differences in usage of different types and grades of tobacco and in trade terminology, and due also to the constant movement of tobacco in commerce and manufacture, accuracy in rendering all quarterly stocks reports is difficult to maintain. The opportunity for duplication of reports and for the erroneous separation of holdings as to types and qualities is very great. This necessitates close contacts with dealers and manufacturers by personal visitation and correspondence to detect errors and maintain comparability in the reports.

Significance: The significance of quarterly stocks reports lies in the fact that the holdings of tobacco by dealers and manufacturers represent much more than half of the supply of tobacco at the time growers deliver their tobacco for sale. An accurate appraisal of the volume and quality characteristics of the existing supplies is therefore indispensable in an understanding of the market conditions affecting the growers. This is particularly true in connection with the formulation and prosecution of programs under the agricultural adjustment acts.

Plan and Progress of Work: For the purpose of obtaining quarterly reports, appropriate forms are printed and mailed to the dealers and manufacturers required to report. The information is tabulated, summarized, and issued at quarterly periods during the year. The project is relatively static as to its general scope, although some of the amendments to the law have created additional detail work. For example, amendments of 1935 provided for the inclusion of stocks of leaf tobacco on the island of Puerto Rico, and specified that an annual report on tobacco statistics be issued. The inclusion of Puerto Rican stocks required a supplemental form in Spanish and a separate tabulation. This also involved some additional travel and supervision over the insular reports. The amendment providing for an annual statistical report entailed considerable additional work.

Other expansion has been made so far as refinement in detail is concerned and opportunities for further refinements in methods and results may be anticipated. As an illustration, the most recent development was the adoption of a supplemental table whereby the holdings of different types of tobacco were separated as to (1) stocks held by or for manufacturers and therefore not available for sale, and (2) stocks held by dealers and available for commerce in the ordinary channels of trade. It was found that foreign importers were inclined to construe the total stocks, which included the holdings of domestic manufacturers, as constituting the supply available for trading purposes, and their attitude as potential purchasers was affected accordingly. Publication of the supplemental table to show separately the stocks of tobacco open to trading operations has served a useful purpose.

(g) PERISHABLE AGRICULTURAL COMMODITIES
AND PRODUCE AGENCY ACTS

Appropriation Act, 1941	\$152,000
Budget Estimate, 1942	<u>152,000</u>

PROJECT STATEMENT

Project	1940	1941 (estimated)	1942 (estimated)
1. Licensing of commission merchants and investigation of complaints	\$154,783	\$152,000	\$152,000
Unobligated balance	217	- -	- -
Total	155,000	152,000	152,000

WORK UNDER THIS APPROPRIATION

Objective: To administer the Perishable Agricultural Commodities Act (7 U.S.C. 499a-499r) and the Produce Agency Act (7 U.S.C. 491-497). These Acts make it unlawful for commission merchants, dealers, and brokers handling fruits and vegetables in interstate commerce to fail truly and correctly to account for products received on consignment or purchased. False and misleading statements made for fraudulent purposes, rejection of purchases without reasonable cause, and failure to deliver in accordance with the terms of a contract are also prohibited under the law. The object is, therefore, to protect producers and handlers against certain unfair and fraudulent practices in the handling of fruits and vegetables.

The law requires that all commission merchants, dealers, and brokers be licensed annually. Upon evidence of violation of the provisions of the Acts or regulations issued thereunder the Secretary is authorized to suspend or revoke a license. The Secretary also is authorized to entertain complaints for damage from violations of the Act and to determine the amount of reparation due.

The Problem and Its Significance: For many years conditions in the fruit and vegetable industry were such that producers were practically forced to submit to almost any terms that the dealer wished to place upon a transaction. The commodities dealt with being perishable, a buyer could reject a shipment at will and the farmer or shipper was faced with the possibility of losing the entire shipment or accepting a reduction in price. On the other hand, shippers frequently also would refuse to fill contracts unless it was to their advantage to do so. These conditions

not only caused confusion and many losses in the distribution of fruits and vegetables but also made it extremely difficult for scrupulous dealers to stay in business. It was conditions such as these that led up to the passage of the Produce Agency Act and the Perishable Agricultural Commodities Act.

The problems involved in the administration of these laws are many. They include prompt investigation of complaints, more than 22,000 having been received under the P.A.C. Act alone since its passage, the investigation of applications for licenses and the issuance of licenses, and keeping in touch with the constant changes of personnel engaged in the produce trade. Numerous inquiries are received regarding interpretations of the Acts and the regulations.

The turnover of produce dealers is always large. This is because it takes comparatively little capital to enter some phases of the business and, particularly in recent years, a great many truckers have set themselves up as dealers. This group is particularly difficult to keep track of. There are large numbers of such dealers who are subject to the Act and should be licensed.

Plan and Progress of Work: The work relating to the enforcement of both laws is organized as one unit. The Perishable Agricultural Commodities Act requires each commission merchant, dealer, and broker handling fresh fruits and vegetables in interstate and foreign commerce to secure a license from the Department at a fee of \$10 per annum. During the 10 fiscal years 1931 to 1940, inclusive, the total amount collected in license fees was \$1,682,935.23 and the total expenditure under this appropriation for administering the Act was \$1,288,902, an excess of income over expenditures of \$394,033.23 for this period. More than 21,000 licenses are now in effect.

Enforcement work falls into three general classes of procedure:

(1) Settlement of complaints between persons.

The Secretary of Agriculture is authorized to accept complaints from persons seeking damage because of violation of the law, and to issue reparation awards if the Act is found to have been violated and damage sustained. If the award of the Secretary is not paid and an appeal is not taken to a United States District Court within 30 days, the license of the offending party is automatically suspended by law. More than 23,000 complaints have been filed under the Act of which about 10 percent resulted in formal decisions by the Secretary and the total of the amounts involved therein was about \$700,000. The remaining complaints were settled without the formality of orders issued by the Secretary, or were withdrawn.

Since amendment of the Act in 1934 specifically authorizing the settlement of complaints on an amicable basis without formal Secretary's decisions when mutually agreed to by the persons involved, opinions have been given resulting in settlements amounting to over \$1,530,000.

(2) Disciplinary action against licensees.

Since the Act was passed, because of flagrant violations, it has been necessary to revoke the licenses of 63 dealers and the licenses of 83 firms have been suspended for periods of from 10 to 90 days. In addition, the licenses of 231 firms have been suspended automatically for failure to pay reparation awards issued against them. Fines have been imposed by the courts upon several firms for refusing to obtain licenses.

The checking of interstate motor truck operators and other prospective licensees was handled the past year as in previous years through three traveling investigators who follow the marketing season in the various shipping districts. In the sections covered excellent checkups were accomplished.

(3) Determination of disputes.

In a gradually growing number of instances dealers are availing themselves of the opportunity to present to the Department for determination disputes arising out of transactions in which both parties desire to have their rights determined under the Act, and mutually agree to accept the Department's decision. This procedure results in prompt adjudication of the rights of the persons involved and an immediate settlement of the dispute without the filing of a complaint and the formal issuance of an award with attendant publicity.

This procedure and other service phases of the work are receiving increasing acceptance by the produce trade. It is believed that the purpose of the Act can best be accomplished by aiding licensees in their efforts to avoid violations rather than to discipline them after violations have occurred. To achieve this purpose better, field offices were established several years ago in Los Angeles and Atlanta, and last year offices were opened in Portland and Chicago. Well trained and competent field representatives have been placed in these offices to handle investigations of complaints arising in their respective districts, and to be available for consultation by the produce trade and growers. The excellent results from these field operations are apparent in accomplishing the purpose of the Act by keeping firms out of trouble without legal prosecution.

In the enforcement of the Produce Agency Act, punishment for violation is by fine or imprisonment, or both. Since its enactment in March 1927, 1,888 complaints have been filed and 107 convictions have been obtained.

(h) STANDARD CONTAINER ACTS

Appropriation Act, 1941.....	\$10,000
Budget estimate, 1942.....	<u>10,000</u>

PROJECT STATEMENT

Project	1940	1941 (estimated)	1942 (estimated)
1. Enforcement activities under the Standard Container Act.....	\$19,448	\$10,000	\$10,000
Unobligated balance.....	552	- -	- -
Total.....	20,000	10,000	10,000

WORK UNDER THIS APPROPRIATION

Objective: The purpose of this appropriation is the enforcement of the Standard Container Acts of 1916 (15 U.S.C. 251-256) and 1928 (15 U.S.C. 257-257i). These two Acts provide for the standardization of the size and capacity of baskets and hampers used in the marketing of fruits and vegetables. The objectives are (1) to afford protection to buyers and consumers by outlawing short-measure containers, (2) to reduce manufacturing costs in the industry by eliminating numerous odd sizes and shapes, (3) to permit a more accurate and definite basis for market quotations by providing for standard units of sale, and (4) to eliminate the unfair competition confronting growers and shippers using full capacity containers from those using deceptive or short-weight containers.

The Problem: There are 360 manufacturers located in 33 States manufacturing about 850,000,000 containers annually. A number of these factories go out of business or change hands each year, and a considerable number of new factories or new organizations operating old factories come into existence. While sizes have been standardized, the design and construction, and methods of manufacture have not, so that while only 16 standard sizes have been established applicable to 6 classes of containers, there are actually a minimum of 136 different sizes and styles of containers covered by the Act, and the total number of such items requiring constant checking is 1,678. Such diversity naturally increases the chance of unintentional error in manufacturing and the opportunity for wilful manipulation unless operations are persistently checked.

Significance: The need for these laws and their value to growers and consumers and the fruit and vegetable industry generally has been shown in the correction of conditions arising out of the wide use of a multiplicity of commercial containers of varied sizes, shapes, capacity, and types,

many of which were clearly deceptive. During the years these Acts have been in effect the honest manufacturer has known he had protection against an unscrupulous competitor who would be willing to make deceptive or snide baskets if he knew that no punishment awaited him. Growers and shippers have been able to buy baskets from any manufacturer with the assurance that the baskets complied with the law. Consumers have been able to buy fruit and vegetables in baskets with confidence that they were protected against short measure.

Plan and Progress of Work: These Federal statutes were enacted in order to bring into operation some uniformity and order in the use of the various types of baskets in the marketing of fresh fruits and vegetables. The provisions of the Act are enforced through inspectors who check the measurements of containers at the factories and by submission of samples of containers on the part of manufacturers to the Washington office for testing. The administration of this legislation has resulted in reducing the number of sizes of berry boxes from 18 to 3, till baskets from 30 to 5, climax baskets from 31 to 4, hampers from 42 to 9, splint baskets from 25 to 6, and round stave baskets from 20 to 9. In all, therefore, the number of sizes of such containers used in marketing of fruits and vegetables has been reduced from approximately 166 to 36.

Only fragmentary legislation affecting these containers exists in the States. With regard to the Act of 1928, not even one State has a law which fully complies with the standards established by the Federal Act. Only two States, Ohio and Indiana, even approximate the Federal statute, and in those two cases the laws are not uniform. The Indiana law provides for 5 sizes of hampers and round stave baskets, and the Ohio law provides for 4 sizes, whereas the Federal law provides for 9 sizes. Thus some sizes which are standard under the Federal law are non-standard under the Indiana and Ohio laws. The Indiana law provides for 5 sizes of splint baskets and the Federal law for 6 sizes. It will be seen, therefore, that one size which is standard under the Federal is illegal under the Indiana law. Ohio makes no effort to standardize splint baskets. In fact, most of the States have no legislation dealing with these containers. The Act of 1928 is a weights and measures statute and applies to intra-state as well as interstate commerce.

The Act of 1916 standardizes 2 types of small baskets; 4 sizes of climax baskets for grapes and other fruits are provided in the law. Nine States and the District of Columbia have laws establishing 3 of these sizes. California has established only the 4-quart climax basket as a standard container. No other States have any laws on the subject or any authority to proceed against non-standard baskets of this type. The Act provides for 3 standard sizes of berry cups, and these have also been standardized by 20 States, but 28 States have no laws on the subject.

Under the Act of 1928 it is illegal for a manufacturer to make baskets unless and until the specifications for them have been approved by the Department. To aid manufacturers the Department has developed standard dimension specifications for 100 containers including in some instances specifications for form and materials. When a manufacturer submits specifications for approval he must at the same time submit

samples of the baskets. If the baskets are found to be of proper capacity, are not deceptive in appearance, and the specifications do not vary from the standard specifications they are approved as submitted. During the past year 173 such certificates of approval were issued. During the past 12 years 1,381 certificates have been issued of which 1,066 are now in effect. Because new items are constantly being added or changes made in old ones 100% coverage is never possible.

During the past year examiners called at 235 factories, and samples were available and examinations made for 54 percent of them. Including laboratory tests, examinations of one or more items were made for 75 percent of the factories involving the testing of 6,279 samples. Because of inherent variables attending the manufacture of veneer containers, the enforcement policy aims to maintain the standards by bringing about the correction of minor unintentional errors and preventing seriously non-standard containers from getting into the trade and becoming competitive factors. In 1939-40 there were 166 instances of minor infractions involving 123 manufacturers in 31 States. Corrections were made in 87 instances, and in 4 cases the unsatisfactory containers were discontinued. In cases settled out of court 203,771 non-standard containers were destroyed or otherwise removed from the channels of trade. During the 12 years the 1928 Act has been in effect a total of 1,451,244 containers have thus been disposed of, or an average of about 121,000 annually.

(i) COTTON QUALITY STATISTICS AND CLASSING ACTS

Appropriation Act, 1941.....	\$465,000
Budget estimate, 1942.....	<u>465,000</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Cotton grade and staple statistics.....	\$214,429	\$219,520	\$219,520
2. Classification and information service in communities organized for cotton quality improvement.....	238,953	245,480	245,480
Unobligated balance.....	21,618	- -	- -
Total.....	475,000	465,000	465,000

WORK UNDER THIS APPROPRIATION

General. The work under this appropriation is concerned with cotton quality statistics for the United States cotton crop and carry-over and with the classification of cotton and market information for farmers organized to

promote the improvement of cotton, in order (1) to furnish basic information on cotton quality that will be useful in the planning of quality improvement programs, effective and efficient marketing, and essential research; (2) to give positive encouragement to cotton quality improvement; and (3) to provide producers of improved qualities of cotton with market information to assist them in marketing their crop. The work is carried on under the following projects:

Project 1. Cotton Grade and Staple Statistics:

Objective: To prepare and disseminate statistics on the grade, staple length, and tenderability of the United States cotton crop and carry-over in accordance with the mandatory requirements of the Act of March 3, 1927.

The Problem: Changes and shifts in the grade and staple length of the United States cotton crop from season to season, from State to State, and from region to region in the Cotton Belt makes it necessary to have accurate current statistics on cotton quality in order to guide improvements in production and marketing efficiency of this major crop and national resource. Experience has shown that these statistics, by giving accurate inventories of each season's cotton crop and carry-over, disprove much erroneous and misleading information regarding supplies of various qualities of cotton. Without such statistics maximum effectiveness could not be attained in the production and marketing of those qualities of cotton that are best adapted to the needs of the world's cotton-manufacturing industry and to the requirements of ultimate consumers of finished textiles. Cotton quality statistics show an up-to-date picture of the available supplies of American cotton and provide a basis for budgeting those supplies by qualities on a national scale.

Significance:

(a) The farm income from cotton production has increased substantially since the early thirties despite a reduction in the size of the crop from an average of 12,700,000 bales during 1932 and 1933 to an average of 11,600,000 bales during 1938 and 1939. The farm income from sales of cotton (excluding cottonseed and Government payments) averaged \$474,000,000 in 1932 and 1933 against \$544,000,000 in 1938 and 1939. Although the major part of this improvement in farm income from sales of cotton may be attributed to the general increase in prices from the depression levels and to other phases of the national farm program, some of it is due to the increase in the staple length of cotton from slightly less than $31/32$ inches in 1932 and 1933 to more than 1 inch in 1938 and 1939. The increase from 1928 when these statistics were first published to 1939 was from about $15/16$ inch to 1 inch or a full $1/16$ inch. The current premium for Middling 1 inch cotton is .18 cents per pound or almost a dollar per bale over that for Middling $15/16$ inch.

(b) The United States produced about 42 percent of the world cotton crop in 1939 against 49 percent in 1933 and 55 percent in 1932.

Although this country no longer produces more than half of the world's cotton crop it is still the world's principal cotton producer, supplying about three times as much as any other country. But competition from foreign growths is increasing. To meet this competition this country needs to know the quality of cotton available so that production may be more accurately adjusted and so that farmers may concentrate their efforts on those qualities of cotton that will give them the greatest comparative advantage.

(c) Comprehensive statistics on the grade and staple length of cotton produced in the United States were first compiled in 1928. Prior to that time there was a general impression existing in this country and in foreign markets that the quality of American cotton was deteriorating. This may have been true but the statistics available during the past 12 years give no indication of deterioration in the crop as a whole. On the contrary, the average staple length of the crop has shown definite improvement. The proportion of cotton shorter than 15/16 inch decreased from 58 percent of the total crop in 1929 to 27 percent in 1939. The proportion of 15/16 to 1-3/32 inch staple increased from 37 percent in 1929 to 68 percent in 1939. The proportion of staples longer than 1-3/32 inches showed no significant change during this period.

(d) These reports on the grade and staple length of cotton constitute a part of an educational or demonstrational program designed to increase the knowledge and stimulate the interest of cotton farmers with respect to cotton quality. For a number of years, patrons of cotton gins cooperating in grade-and-staple statistics work were furnished the classification of bales of cotton from which samples were obtained. This service directly to farmers was only one of the useful by-products of this statistical work. Farmer-interest was stimulated in cotton quality and non-cooperating gins complained of the competitive advantage of their cooperating competitors. Gins that were reluctant to cooperate in the early stages of the work, when sampling was paid for by the Government, now insisted upon cooperating even though no pay was received for sampling. All this led to movement for a classification service, particularly in communities having quality-improvement organizations. In 1937 Congress amended the Grade and Staple Statistics Act to provide free classification and cotton market news in communities organized to promote the improvement of cotton. The classification of statistical cotton samples is still returned to cooperating ginners.

(e) Statistics on the grade and staple length of cotton in the carryover or stocks on hand at the end of each season are necessary in order to complete the information available on the supplies of various qualities of cotton in the United States from season to season. This information has assumed added significance in the national defense program.

Plan and Progress of Work: Changes in the quality of the United States cotton crop and carry-over have been measured since 1928 by grade

and staple statistics prepared and disseminated as outlined in this project. To a considerable extent the marked improvement in the staple length of the cotton crop during this period was stimulated by current grade and staple reports and by related activities carried on as a part of this work.

The costs of estimating the grade and staple length of the cotton crop have been only slightly increased, yet the accuracy, timeliness, and general usefulness of reports and services have been greatly increased. Whereas in its early stages this work was confined solely to estimating the grade and staple length of the cotton crop and carry-over and issuing monthly and annual reports thereon, the work now has much wider application. Reports are issued currently and synchronized with reports of the Bureau of the Census on the quantity of cotton in the ginnings and carry-over and with estimates of the Crop Reporting Board for the cotton crop. The classification of individual bales is returned to cooperating ginners and this provides a useful service to farmers as well as ginners. The personnel and organization set-up of this work is coordinated with the work on the classification and market news service provided to farmers in communities organized to promote the improvement of cotton so as to utilize fully the resources available for both types of work.

Further improvements in the accuracy, usefulness, and efficiency with which this work is conducted are expected in the future. The general scheme of operation is to select cotton gins so located as to represent the quality of cotton produced in different sections of the various cotton-producing States. Arrangements are made with these gins to submit samples from each bale of cotton as it is ginned to branch offices located in various regions of the Cotton Belt. These samples are graded and stapled by trained and experienced cotton classers regularly employed on this project. Information thus obtained on representative samples of the cotton crop is used as a basis for estimating the grade and staple length of the total crop. Field men in the employment of the project are required to supervise sampling and shipping of samples.

These cotton samples are not cut from the bale as is the usual commercial practice but are taken from the bale while it is being ginned. This "press box" sampling is the first large scale sampling of its kind. It has special significance because the usual commercial sampling practice is generally recognized as wasteful and inefficient and steps are being taken to work out a scheme for taking all commercial samples while the bale is being formed and thus eliminating the necessity of cutting the bale covering material.

The grade and staple length of the carry-over is obtained by sampling cotton in storage and classing these samples. With large quantities of Government loan stocks on hand during recent years, advantage has been taken of previous classification of this cotton. Improvements in methods and procedures for estimating the grade and staple length of cotton-carry-over have made it possible to carry on

this work in recent years when stocks of cotton have increased from 2,500,000 bales in 1928 to 10,000,000 in 1932 and 13,000,000 bales in 1939 with very little increase in cost.

Project 2. Classification and Information Services in Communities Organized For Cotton Quality Improvement:

Objective: To carry out the provisions of an Act approved April 13, 1937, (7 U.S.C. 473a-473c); to provide cotton classification and cotton market news information to groups of farmers organized to promote the improvement of cotton.

The Problem: Farmers in more than 1,500 communities have organized one-variety groups to promote the improvement of cotton and to standardize varieties. In order for these farmers to obtain full premiums for these improved cottons it is necessary for them to know the classification of their cotton and to have accurate unbiased information on prices and markets. Such groups are located in all of the important cotton-producing States--one or more in 15 States. Classification and cotton market news were made available to these and other organized groups by the Act of April 13, 1937. Applications for classification and market news from 1,573 groups were approved in 1940--an increase of 655 over the previous year. About 1,800 groups are expected to apply in the crop year 1941.

Significance: More than 128,000 cotton farmers were members of cotton improvement groups eligible for classification and cotton market news in 1940-41 representing 4,106,000 acres. Although this is a comparatively small proportion of the total of 2,000,000 cotton farmers the significance of the results obtained from this work is by no means measured by the benefits to these groups alone. The process of effective quality improvement involves a great deal of demonstrational work. Farmers must be shown that it pays to grow better cotton. That they are now cognizant of this fact is shown by the increase in samples classed from 268,000 in 1939 to 1,100,000 in 1940. The indications are that the members of cotton improvement groups rank with the best groups of farmers in their respective counties and States. These are the logical individuals to set the example for other farmers to follow.

The classification of cotton requires long training and considerable talent. It is beyond reasonable expectations to hope that cotton farmers as a whole will become skilled cotton classers, yet to bargain effectively they must know the quality of their cotton. Supplying this needed information to farmers actively interested in cotton improvement along with price quotations and other market news drives home the need for such information among farmers other than those actually members of the various organized groups. This should lead eventually to unbiased classing services either public or private, in important cotton growing areas as well as more effective market information services for all cotton farmers. This would mean the gradual improvement in cotton quality and a better adjustment to mill needs; higher farm incomes through a more efficient marketing system; a stronger competitive position for American cotton in foreign markets and at home; and better quality goods for the ultimate consumer.

Plan and Progress of Work: The purpose and plans of the Service are given wide publicity through the press and radio. Through cooperation with the Extension Service, county agents throughout the south are informed of the requirements necessary and methods by which groups may qualify to obtain the service. Organized groups are furnished with the necessary supplies and instructions for posting the market news information and drawing and submitting samples. After the samples are received from groups they are graded and stapled by specialists in cotton classing, the necessary classification records are prepared and supplied to the individual growers. Current market news information is collected, compiled and supplied the group leaders for further dissemination among the group members. County agents and group leaders are visited from time to time and given assistance in the interpretation and use of the classification and market news information. After the ginning season is over summaries of the classification information are furnished the group leaders and releases of a general nature are published.

This work was first inaugurated July 1, 1938. 312 organized groups made application for free classification and market news services. In 1939, 918 groups made application, an increase of 600 over the previous year. There were 264,567 bales classed for the 918 communities receiving the services during 1939. These groups included 64,000 farmer-members who had planted to adopted varieties 1,766,000 acres.

Branch offices are maintained as follows: Field offices at Atlanta, Ga., Austin, Dallas, and El Paso, Tex., and Memphis, Tenn. Substations at Alexandria, La., Altus, Okla., Bakersfield, Calif., Birmingham, Ala., Columbia, S.C., Jackson, Miss., Little Rock, Ark., Lubbock, Tex., and Raleigh, N.C.

(j) UNITED STATES COTTON FUTURES
AND UNITED STATES COTTON STANDARDS ACTS

Appropriation Act, 1941.....	\$490,000
Budget estimate, 1942.....	<u>490,000</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Cotton futures and spot markets investigations, and cotton price quotations.....	\$58,304	\$61,920	\$61,920
2. Preparation and distribution of official cotton standards.	113,162	120,180	120,180
3. Classing spot cotton, licensing classers for spot cotton and purchase of cotton for the preparation of standards.....	75,328	80,000	80,000
4. Supervision of the work of licensed classers of spot cotton.....	86,599	91,970	91,970
5. Classification of cotton for delivery under the Cotton Futures Act.....	132,690	135,930	135,930
Unobligated balance.....	28,917	- -	- -
Total.....	495,000	490,000	490,000

WORK UNDER THIS APPROPRIATION

Project 1. Cotton Futures and Spot Markets investigations, and Cotton Price Quotations:

General. The work under this project is concerned with the supervision of the spot cotton quotations in ten bona fide spot markets designated as such pursuant to the mandatory requirements of the United States Cotton Futures Act, as amended; and with the gathering and dissemination of market information on cotton in connection with the market news service.

Objective: To supervise quotations-making in markets designated as bona fide spot cotton markets for the purposes of the United States Cotton Futures Act, as amended, in order to provide assurance that such quotations will accurately reflect commercial values for the various qualities of cotton; to obtain accurate information in local as well as in

central markets to show the prices of cotton of different grades and staple lengths, along with the factors affecting prices; and to disseminate information on cotton prices and cotton market news information, in the most effective way, to growers, merchants, manufacturers and others.

The Problem - Significance: When the Cotton Futures Act was enacted it was generally believed that the prices which producers received for their cotton were dominated by the prices of cotton futures on the exchanges. For many years a large proportion of the membership of both spot and future exchanges had felt that there were abuses in the methods prevailing on the futures exchanges, and the feeling among producers and manufacturers that they were unfairly treated had become widespread. The Cotton Futures Act was intended to correct the abuses without destroying the economic usefulness of the exchanges, particularly the facilities they provide for hedging. The investigation and designation of bona fide spot markets and the maintenance of a cotton market news service were among the means provided for eliminating abuses and for maintaining service and regulatory activities in this field, in the interest of growers and of the cotton industry in general.

Plan and Progress of Work: Cotton price quotations are issued daily by the quotations committees of the cotton exchanges located in the ten designated spot cotton markets. Such quotations are received regularly by the Agricultural Marketing Service. The Service maintains close contact with these committees by mail and telegraph, and a representative of the Service visits each market at intervals throughout each cotton season as a means of assuring the accuracy of quotations issued. Information on prices and on the cotton marketing situation at various distributing points and in manufacturing centers is also obtained. The Cotton Belt has been divided for the purposes of the cotton market news service into four districts with headquarters at Atlanta, Georgia; Memphis, Tennessee; and Dallas and El Paso, Texas. A weekly market review based on information obtained from field offices of the Division of Cotton Marketing and other sources is prepared in Washington and telegraphed to the market news offices in the field. In each of the district offices a review of district market news is prepared and incorporated with the review from Washington and mailed promptly to producers and others, including news organs and broadcasting stations. In addition to the review there is prepared at each of the four field offices a cotton quotations report which covers the prevailing premiums and discounts for grades and lengths of staples in various localities. Market prices are transmitted to about 70 radio stations four times each day. In addition, each station receives a daily market summary at the conclusion of trading. There is also prepared in Atlanta a daily report giving the Middling 15/16" quotations of the ten designated markets as well as grade and staple premiums prevailing in such markets. The work has been supplemented and strengthened by activities under the Cotton Quality Statistics and Classing Acts, for which separate project statements are submitted.

Project 2. Preparation and Distribution of Official Cotton Standards:

General. The work under this project consists of the preparation and distribution to the public of copies of the official cotton standards of the United States. These standards consist of various grade boxes representing gradations of quality in American upland cotton, American-Egyptian cotton, Sea Island cotton, and American cotton linters and of official types representing the staple length of the different varieties of cotton. The work is done in accordance with mandatory requirements of the United States Cotton Futures Act and the United States Cotton Standards Act.

Objective: To supply promptly, upon request, copies of the official standards of the United States for cotton and linters to handlers and users of American cotton and linters in this country and throughout the world, subject to the payment of prices fixed in the regulations of the Secretary of Agriculture and subject to other conditions specified in such regulations and to supply similar copies to employees for official use.

The Problem - Significance: Before the inauguration of cotton standardization work in the Department it was generally recognized that the lack of uniform standards for cotton was detrimental to those concerned with cotton growing, marketing, and manufacturing. Identical grade names were applied in different markets to cotton of different quality and price. The Agricultural Appropriation Act for the fiscal year 1909 contained an item authorizing investigations in cotton standardization and the establishment of permissive standards for nine grades of White cotton. The early work of the Department in this field was encouraged by various organizations in the industry and as the program has developed it has had the active support of organizations of growers, merchants, and manufacturers and of southern agricultural colleges.

The standards set up in 1909 were merely permissive. The enactment of the original Cotton Futures Act in 1914 conferred authority to establish standards to be known as the Official Cotton Standards of the United States and an entirely new set of standards was promulgated. The use of these standards was mandatory only in connection with cotton futures trading. Since their original establishment the standards have been revised and supplemented from time to time under the reenactment of the Cotton Futures Act in 1916 and under the Cotton Standards Act of 1923 which made the official standards the required basis of all transactions in interstate and foreign commerce involving the sale of cotton and linters according to standard descriptions. Both statutes provide for the sale of copies of the standards at prices fixed in the regulations of the Secretary of Agriculture.

The use of the grade standards for American upland cotton in European markets and Japan has been facilitated by agreements between the Department and the leading European and Japanese cotton trade organizations. Although they apply only to the grade standards for American upland cotton, the universal use of American standards for both grade and staple in all world markets in which American cotton is sold has been substantially accomplished.

This standardization program provides uniform measures of quality for evaluating American cotton and linters for purchases, sales and manufacture; it provides a basis for the cotton market news service, encourages the sale of cotton and linters on a quality basis, and tends to reduce the spread between producers' prices and those paid by manufacturers. The entire program is, therefore, of fundamental importance to cotton farmers in the United States and to all buyers and sellers of American cotton and linters in this country and throughout the world.

Plan and Progress of Work: The work of preparing and distributing copies of the standards is done in Washington. The standardization staff consists of a final review committee, a group of specialists engaged in the preliminary preparation of standard boxes and staple types, a cotton warehouse and necessary personnel for the handling, storage, and recording of a rapidly changing stock of approximately 1,000 bales of numerous qualities which must be kept on hand for the standardization work, a small staff of workers engaged in sewing, mounting photographs, etc., and a small office staff, a part of whose time is devoted to paper work incident to the purchase of the raw material and to the preparation and sale and shipment of the copies of standards.

During the fiscal year 1940 2,838 boxes of the grade standards and 9,900 staple types have been distributed. Collections amounted to \$15,369.

Project 3. Classing Spot Cotton, Licensing Classers of Spot Cotton, and Purchase of Cotton for the Preparation of Standards:

General. The services furnished to the public by this project are provided for in the mandatory provisions of the Cotton Standards Act and Cotton Futures Act.

Objective: To provide an official classification service by officers of the Department for those who wish to have their cotton or linters officially classified; to provide for a more general and widespread service by competent persons who have obtained licenses from the Secretary of Agriculture but who are not Government employees; and to provide for obtaining and keeping always available adequate supplies of raw cotton and linters of the gradations of quality required for the manufacture of copies of the various standards.

The Problem - Significance: When the bill which became the Cotton Standards Act in 1923 was before Congress, the House Committee on Agriculture filed a report in which it was pointed out that the standards previously established under the Cotton Futures Act were not compulsory in spot transactions; that their use had not been extended to many markets, particularly the smaller ones in which the greater part of the crop was sold by farmers; that there was much confusion in the meaning of grade terms in the farmers' markets; that current quotations of prices could not have a uniform application under such conditions; and that the Department did not at that time have authority to apply the official standards as to cotton involved in spot transactions. The committee particularly stressed the public need for official standards for use in the spot cotton business and for official

cotton classification services. The legislation had the support of southern agricultural colleges and directors of extension, as well as farmers, merchants, and manufacturers.

Section 3 of the Act authorizes the Secretary of Agriculture to license competent persons to classify cotton and linters and section 4 provides for the maintenance of a public classification service by officers of the Department. Provision is made for the collection of fees for the issuance of licenses and for the classification of cotton and linters for the public. Section 6 provides for the sale of copies of the standards at prices fixed in the regulations of the Secretary. Section 9 of the Cotton Futures Act contains a similar requirement.

The classing services of the boards of cotton examiners and cotton linters examiners and the classing services provided by licensed classers make available to the public facilities for determinations of the grade and staple length of cotton and linters in terms of the official standards and encourage the purchase and sale of cotton and linters according to actual quality and commercial value. An outstanding feature of these services in recent years has been the classing of large quantities of cotton involved in loan programs of the Commodity Credit Corporation and cotton handled by the Federal Surplus Commodities Corporation, and other agencies.

The purchase of cotton for the preparation of standards is a part of the cotton and linters standardization program and is covered in a separate statement.

Plan and Progress of Work: An Appeal Board of Cotton Examiners and a Board of Cotton Linters Examiners are maintained in Washington. Boards of cotton examiners are also stationed in 17 cities in the South. The work incident to licensing classers is handled by the Washington office of the Division of Cotton Marketing with the assistance of the Board of Supervising Cotton Examiners at Memphis, Tennessee, which is the agency charged with responsibility for coordinating all cotton classing work in the field. The work of this board will be mentioned in the statement on financial project "Supervision of the Work of Licensed Classers of Spot Cotton." The licensing and supervision of linters classifiers is handled from Washington.

During the fiscal year 1940, 560,057 samples representing as many bales have been classified in or in connection with the classing services under the Cotton Standards Act by boards of examiners of the Department; 1,751 licenses have been issued to classers not employed by the Department; and 165 bales of cotton weighing 83,882 pounds and 5,234 pounds of loose cotton for the preparation of standards have been purchased.

Collections for the classification of cotton and linters and for license fees for the fiscal year 1940 amounted to \$40,657.

During the year a total of 258,988 pounds of discarded cotton valued at approximately \$22,536 have been turned over to the Federal Penitentiary at Atlanta, Georgia. This cotton represented accumulations from the cotton standardization work and various cotton classing activities.

Project 4. Supervision of the Work of Licensed Classers of Spot Cotton:

General. The work under this project involves the supervision of grade and staple determinations by holders of licenses issued to cotton and linters classifiers pursuant to section 3 of the United States Cotton Standards Act. This section provides, among other things, that the Secretary may upon presentation of satisfactory evidence of competency issue to any person a license to grade or otherwise classify cotton and to certificate the grade or other class thereof in accordance with the official cotton standards of the United States. Provision is also made for the suspension or revocation of licenses for improper classing or for other sufficient reasons.

Objective: To provide for the supervision of the work of a large number of classers licensed under the Cotton Standards Act so that producers and others who utilize their services may have reasonable assurance as to the reliability of the classification work done by them.

The Problem - Significance: As facilities provided for cotton classing by employees of the Government are necessarily limited, by far the greater volume of cotton and linters officially classified must be handled by licensed classers. Producers and members of the industry who rely upon the classifications performed by licensees are entitled to the protection to be afforded by adequate supervision of the activities of such licensees - particularly the accuracy of their grade and staple determinations according to the official standards. Grade and staple are not susceptible to exact measurement, and although classing is a skilled art experience has shown that in the absence of effective supervision the best classers will deviate from the standards in their daily work. Such inaccuracies oftentimes result in gross undervaluations or overvaluations of the bales classed. The magnitude of the supervision job is indicated by the fact that during the fiscal year 1940 licensed classers reported the classification of more than 12 million bales.

In addition to providing authority for the issuance of classers' licenses, section 3 of the Cotton Standards Act provides that any license may be suspended or revoked by the Secretary whenever he is satisfied after reasonable opportunity for hearing that such licensee is incompetent or has knowingly or carelessly classified cotton improperly or has violated any provision of the Act or the regulations thereunder.

Thus provision is made in the interest of farmers and others for a widespread classification service by competent persons who have licenses under the Act but who are not Government employees--subject, of course, to official supervision. This project has rapidly grown in importance in recent years. Whereas in 1928 only 56 licenses were issued, a total of more than 2,200 were outstanding during the fiscal year 1939, and 1,751 cotton classers' licenses and 40 linters classers' licenses were outstanding during the fiscal year 1940.

Plan and Progress of Work: A Board of Supervising Cotton Examiners is maintained at Memphis, Tennessee, and 12 local supervisors working

under the direction of the Board are stationed at various points in the Cotton Belt. Other personnel of the Division of Cotton Marketing are also assigned for temporary periods to assist in this work when possible. The local supervisors work with the licensees in their territory and submit to the Board of Supervising Cotton Examiners samples and records showing the work done by them and by the licensees under their supervision. Large quantities of samples are also sent to the Board by licensed classers over whom the limited personnel engaged in this work is unable to maintain personal supervision. Of necessity the local supervisors are obliged to give principal attention to licensed classers employed by the various cotton growers' co-operative associations who rely upon them to determine the quality of cotton received from farmers who are members of such associations. Adequate supervision of the numerous licensees who are not employed by the cooperative associations is impossible with the personnel and funds now available.

The Board of Cotton Linters Examiners in Washington is responsible for the supervision of licensed linters classers.

Work under this project divides itself along the following lines:

(1) Upon receipt of application for license, if applicant shows requisite experience in commercial classing work arrangements are made for his practical classing test. If he makes a satisfactory showing in this test appropriate inquiries are made in regard to his general qualifications, honesty, and integrity and if the information received concerning him is satisfactory a license is issued him from Washington.

(2) After the license is issued the licensee is subject to supervision at any time. The supervision work involves: (a) Checking licensee's books, records and copies of certificates, and (b) Checking the accuracy of his classification of samples on hand, and the personal supervision of the classification of any samples involved in current work. Any inaccuracies disclosed by such check are drawn to the attention of licensee and corrections made as indicated. Supervision samples of cotton are sent to the Board of Supervising Cotton Examiners at Memphis, Tennessee, and supervision samples of linters to the Board of Linters Examiners in Washington. The Boards' classifications of such samples are reported to regional supervisors or licensees, as the case may be.

(3) Special investigations are conducted as required - (a) Complaints received from persons affected by the work of individual licensees are investigated and the facts reported to Washington, ordinarily through the Board of Supervising Cotton Examiners at Memphis, Tennessee; (b) Licenses may be suspended or revoked for cause in accordance with a procedure prescribed by the regulations of the Secretary of Agriculture under the Cotton Standards Act. Any licensee against whom charges are filed may be accorded a hearing if he so desires.

Project 5. Classification of Cotton for Delivery under the Cotton Futures Act:

General. The work under this project is concerned with the determination of the quality of all cotton delivered in the settlement of futures contracts, as provided for in the mandatory requirements of section 5 of the United States Cotton Futures Act.

Objective: To provide and maintain at points of delivery on futures contracts under the United States Cotton Futures Act classification services which may on short notice determine and certificate the classification according to the official cotton standards of the United States of large or small quantities of cotton intended for delivery in the settlement of such contracts, and thus to lend stability to cotton futures trading by providing assurance that all cotton delivered in settlement of futures contracts will be properly classed as a basis for correct valuation.

The Problem - Significance: With respect to the quality of cotton delivered in settlement of contracts for future delivery, the Cotton Futures Act in its present form provides that all tenders of cotton on futures contract under section 5 of the Act shall be in accordance with the classification of such cotton made under the regulations of the Secretary of Agriculture by officers of the Government designated for the purpose, and that fees for such classing service shall be assessed and collected. Although the classing service has generally been self-supporting, the work is very irregular on account of the fact that it is dependent upon the recurrence of technical conditions in the cotton markets which make it advantageous to deliver actual cotton in settlement of futures contracts. These technical conditions can never be anticipated from season to season. The number of bales classified under the Act have fluctuated from only a few thousand to over 900,000 in a season.

Plan and Progress of Work: Boards of cotton examiners have been maintained at points of delivery on futures contracts of the three cotton futures exchanges--the New York and New Orleans Cotton Exchanges, and the Chicago Board of Trade. These delivery points are New York, New Orleans, Houston, Galveston, Mobile, Savannah, Charleston and Norfolk. The office at Norfolk, Virginia has been temporarily discontinued, however, in view of the fact that very little cotton has been delivered on futures contracts at that point in recent years. Each board of cotton examiners generally consists of two or more specialists in cotton classing and a small staff of assistants which is expanded by the employment of temporary help when large volumes of work must be handled. Each bale to be delivered on a futures contract is officially sampled under the immediate supervision of an exchange inspection agency and under the general supervision of a representative of a board of cotton examiners of the Department. Each individual bale sample is thereafter officially graded and stapled by the board of cotton examiners and the board issues a separate certificate for each bale. The samples are held in the custody of the board as long as the cotton remains in the certificated stocks available for future

contract delivery. A large volume of paper work is required in connection with the sampling, classing, and certification of such cotton and in connection with the withdrawal of individual bales from certificated stocks. Subject to the requirements of the Secretary's regulations, review classifications are performed by committees of the Cotton Appeal Board of Review Examiners, either at the request of persons who intend to deliver the cotton in settlement of futures contracts or at the request of receivers of cotton in settlement of such contracts. Fees at the rate of 25 cents per bale are collected for original classifications and at the rate of 30 cents per bale for review classifications.

During the fiscal year 1940 94,246 bales of cotton have been classified and certificated for delivery on futures contracts. Review classifications have numbered 29,550, and fees to the amount of \$32,471 have been collected.

SUPPLEMENTAL FUNDS

Direct Allotments

Projects	Obligated 1940	Estimated obligations 1941	Estimated obligations 1942
<u>Exportation and Domestic Consumption of Agricultural Commodities, Department of Agriculture, Agricultural Marketing Service: For classing cotton under the provisions of the One-Variety Cotton Export Program regulations</u>	\$4,801	\$18,500	- -
<u>Working Fund, Advance from Administrative Expenses, Commodity Credit Corporation, Department of Agriculture, Agricultural Marketing Service: For classing cotton for the Commodity Credit Corporation.</u>	24,484	- -	- -
Total, Supplemental funds, (direct allotments)	29,285	18,500	

(k) GRAIN STANDARDS ACT

Appropriation Act, 1941	\$723,941
Budget estimate, 1942	<u>748,941</u>
Increase	25,000

PROJECT STATEMENT

Project	1940	1941 (estimated)	1942 (estimated)	Increase of decrease
1. Administration of the U. S. Grain Standards Act	\$719,424	\$723,941	\$748,941	+\$25,000 (1)
Unobligated balance	4,517	- -	- -	- -
Total	723,941	723,941	748,941	+25,000

INCREASE

(1) An increase of \$25,000 is requested for soybean inspection.

Objective: To provide for the supervision of soybean inspection work under the amendment to the Grain Standards Act (Public No. 750, approved July 18, 1940). A new branch office will be opened at Decatur, Illinois. Decatur, in the heart of the soybean producing area, is the largest processing center in the country and next to the largest market - second only to Chicago. There is no grain office now located at this point, and it would not be feasible to endeavor to handle the large volume of transactions from the nearest grain office at Peoria, Illinois.

Chicago is the largest soybean market in the country. At least one additional supervisor will be needed at this point. Additional junior supervisors will also be needed at Cedar Rapids, Iowa, Peoria, Illinois, Indianapolis, Indiana, and Toledo, Ohio.

The Problem: The new amendment places soybeans on the same basis as all other grains included under the Act. It means that it is now illegal to use any grades other than Federal grades in marketing soybeans in interstate or foreign commerce. Aside from the responsibility for perfecting standards and keeping them up to date, a problem which is magnified by the variations in the types of soybeans grown and the many and varied uses made of the crop, there is a very real and immediate problem to be met in undertaking this added responsibility. It will be necessary to supervise the soybean work at 53 inspection points, involving approximately 130 inspectors. While most of these points are already established for grain, there are at least six instances where new inspection points will be necessary. In the field offices located in the more important soybean producing areas and processing centers, such as Peoria, Illinois, Cedar Rapids, Iowa, Indianapolis, Indiana, Chicago, Illinois, and Toledo, Ohio, increased

supervisory responsibility must be assumed. Prompt appeal service must also be provided at the various points throughout the soybean producing area.

Significance: In recent years soybeans have become a major agricultural product. In the 1940 crop year there were a little over 5,000,000 acres harvested for beans, which is about 18 percent larger than the acreage harvested in 1939, and almost exactly three times the average acreage for the 10-year period, 1929-38. The preliminary estimate of the production in 1940 is about 79,200,000 bushels which is nearly three times the average production for the 10-year period 1929-38, and which makes soybeans the sixth most important grain crop produced in the country. As a cash crop, soybeans have also assumed an important position. The 1939 crop was valued at about \$67,500,000. In Illinois, the leading soybean producing State, the value of the 1939 crop was more than \$34,000,000, or nearly \$8,000,000 more than the value of the wheat crop. In Iowa, too, the value of soybeans last year was nearly double the value of wheat.

The increasing importance of this crop from the standpoint of its industrial uses, as well as its adaptability in the farm program, makes it one of the important agricultural crops. With its growing importance, the industry as a whole supported the amendment to bring the marketing of soybeans under the provisions of the Grain Standards Act. As in the case of grain, this has the effect of standardizing the grades used and provides for the uniform interpretation of the grades. This facilitates the marketing of the crop and avoids the confusion that is certain to result when grades vary as between markets.

WORK UNDER THIS APPROPRIATION

Objective: To provide for the administration of the United States Grain Standards Act approved August 11, 1916. This statute established a national grain inspection service; it provides for official Federal standards the use of which is compulsory when grain is sold by grade in interstate commerce; it provides for licensing inspectors to apply the standards, for supervising their work, for handling appeals from interested parties, and for the administration of certain regulatory provisions designed to prevent fraud and misrepresentation in grain merchandising.

The Problem: The law is mandatory in character; its requirements have been imposed upon producers, dealers and shippers, and they in turn expect the Department so to conduct its administration of this law that the hazards and losses incident to inspections performed at the various markets shall be reduced to a minimum. This is likewise so in connection with the regulatory provisions designed to prevent fraud and misrepresentation. The trade itself is highly competitive, and any unfair advantage or unethical conduct on the part of individuals or companies is in regular course laid at the door of the Department for adjustment.

Significance: Aside from the mandatory requirements for the use of the Federal standards, they have been generally adopted and are in use throughout the country in cash and futures trading, warehousing, transportation, financing, price quotations, and export trade. They form a basic, integral part of the marketing of the Nation's grain crops, from the producer through the various channels of trade to the consumer or processor. Price structure in the grain industry is sensitive. The assignment of a grade to a lot of grain virtually fixes its price. The task is a difficult one in that much depends upon the exercise of human judgment, and the industry as a whole must have confidence in the national inspection service. A lack of confidence gave rise to the passage of the law in 1916.

Plan and Progress of the Work: The application of the standards is in the first instance committed to licensed inspectors who are not Federal employees. There are 412 such licensees, together with their sampler assistants, performing inspection service at 174 points throughout the country. During the past year they performed a total of 1-1/3 million official inspections representing a total of 2-1/4 billion bushels of grain. The work of these licensees is supervised by a Federal force known as Federal Grain Supervision. This Federal organization maintains field offices at 46 of the most important grain markets in the country and, in addition, two offices of field headquarters, one at Chicago, Illinois, and the other at Portland, Oregon.

It is the task of Federal Grain Supervision to see to it that the official standards are correctly and uniformly applied by all inspectors at all markets throughout the country. This undertaking embraces such items as the development and maintenance of proper inspection equipment, the interpretation of the standards by the Boards of Review for the benefit of district supervisors as well as licensed inspectors, the preparation of samples which portray the various grading factors which are interpretative in character, the sampling at random of inspected lots of grain in order to check the performance of the licensees, and the handling of appeals on behalf of the Secretary of Agriculture from inspections performed by licensees. During the fiscal year 1940 some 197,503 inspections were supervised by Federal Grain Supervision, and 42,382 appeals in controversial grading cases were entertained and decided on behalf of the Secretary of Agriculture. Constant vigilance is required in connection with this supervision work to the end that departures from the proper application of the standards may not occur.

Aside from the primary task of fixing the standards, preparing amendments to them to keep pace with the evolutions in the trade, and the supervision of inspection and appeal work, this organization is called upon for substantial cooperation and assistance from other branches of the Government engaged in carrying forward the broader agricultural programs. Statistical material gathered in the course of regular work is made available to other branches of the Government through the medium of publications, press releases and market news reports regarding the quality of the crops, and to producers' organizations and crop-improvement associations interested primarily in improved production and marketing practices.

Revenue: The revenue for appeal inspections made under the Act during the fiscal year 1940 was \$50,875.31. These funds are covered into the Treasury of the United States as miscellaneous receipts.

(1) WAREHOUSE ACT

Appropriation Act, 1941.....	\$450,000
Budget estimate, 1942.....	<u>450,000</u>

PROJECT STATEMENT

Projects	1940	(estimated)	(estimated)
1. Inspection and licensing of warehouses and enforcement activities under the U. S. Warehouse Act.....	\$411,193	\$450,000	\$450,000
Unobligated balance.....	6,307	- -	- -
Total.....	<u>a/ 417,500</u>	450,000	450,000

a/Includes \$17,500 carried in the Third Deficiency Act of 1939.

WORK UNDER THIS APPROPRIATION

General. This appropriation provides for the administration of the United States Warehouse Act. Primarily, the work consists of licensing warehousemen to store agricultural products including investigations preliminary to the issuance of licenses and the supervision of warehousemen after they are licensed.

Objective: The primary objective of the Act is to create a national system of safe storage for agricultural products so as to enable the producer or other owner of the products to use such products for collateral purposes to greatest advantage and at a minimum of cost, and thereby aid in the more orderly marketing of products, and avoid losses which in the past have run into substantial figures due (a) to improper storage, and (b) to illegal conversion of the products by persons to whom they were entrusted for safe keeping.

The Problem: In order that the Federal warehouse receipt may always be regarded as sound collateral by loan agencies, Federal supervision of licensed facilities must be sufficiently vigorous and frequent to insure at all times (1) that outstanding receipts reflect truly and accurately stocks on hand and the weight, grade, and quality of the product; (2) that financial responsibility of the warehouseman has not been impaired; (3) that facilities are in proper condition for storing products; (4) that employees serving the warehouse are honest and competent; and (5) that adequate insurance is carried with responsible underwriters. The vigilance necessary to insure protection includes frequent examination of all licensed warehouses.

The larger cotton warehouses are filled to about 60% of capacity throughout the year due largely to increased stocks in the hands of the Government or subject to loans by the Government. This carryover of surplus not only necessitates the checking of increased stocks but, due to the congestion that results in the case of cotton, it reduces the number of bales that an examiner can check per day. Further, because of additional factors relating to quality of grain that the Government loan agencies are imposing on warehousemen, it is necessary to check stocks of grain not only for grade but also to see that the warehousemen have grain of such quality as will enable them to meet their contracts with such loan agencies. In addition, the longer stocks are carried by warehousemen the more the possibility of deterioration, and this presents an additional problem in detailed examination as contrasted to times when stocks move freely.

Requests growing out of the need for financing, are received from time to time by the Department to place additional products such as cane and beet sugar, rayon fiber, wines and brandy, and flour and milled grain products on the eligible list. Before such requests as fall within the scope of the Act can be granted, certain preliminary investigations must be made. For a number of years no new products have been added to the eligible list because it was not possible to finance the investigational work preliminary to drafting and promulgating regulations. It is not safe to add new commodities unless they are preceded by thorough investigation as to the storability of such products and the factors that should be incorporated in regulations to handle such products.

Under the Warehouse Act a supervisory service is provided that tends to forestall losses to producers and holders of warehouse receipts and thereby creates a favorable market for warehouse receipts in financial centers, particularly making them acceptable to bankers generally for collateral purposes. The orderly marketing of agricultural products normally requires that products remain in storage a considerable period of the year. This gives rise to need for enormous amounts of credit. Local banks cannot meet such demands because of their limited capital structure. Their usefulness can be enlarged if they are furnished with proper collateral to support paper, which they can rediscount in metropolitan centers and with Federal Reserve Banks. Further, if proper collateral in the form of a warehouse receipt is available, producers and their organizations, and merchandisers of agricultural products can avail themselves directly of credit in the metropolitan centers.

It is, therefore, essential that warehouse receipts should be of the highest integrity so that they will continue to command the confidence of bankers generally. Warehouses operating under the Federal Warehouse Act have met this requirement. Producers have been able to obtain loans where they might otherwise have been forced to sell their commodities immediately following harvest thereby flooding the market and further accentuating seasonal variations in price to the detriment of the agricultural structure generally. The problem, then, is to keep abreast of the demand created by the market for

Federal warehouse receipts and at the same time to keep receipts on such a high plane that their acceptability will not be questioned in any market. That problem can be met only by adequate investigation before licensing the warehouseman to determine whether he should be licensed, and, secondly, by constant and thorough supervision after licensing.

Significance: The operation of the Warehouse Act encourages the storage of farm products pending demand, and makes for orderly marketing. This has been accomplished by converting the products into a form of collateral, namely, a warehouse receipt which commands confidence in financial markets and thereby opens new sources of credit to producers, their marketing organizations, and provides protection against deterioration and conversion losses. Each year sees new private financing agencies, to say nothing of Governmental agencies, advising their customers to store their products in Federally licensed warehouses so as to secure the Federal warehouse receipt, and in many instances they actually demand the receipt before they will make a loan. Governmental agencies are unanimous in their feeling that their interests are best protected when products are stored in Federally licensed warehouses. It further simplifies their operations and decreases their expenses in that the Federal warehouse receipt is uniform throughout the country.

Before the Warehouse Act came into general use, the warehousing of farm products in many sections was attended with uncertainty, and warehouse receipts generally were not acceptable to financing agencies beyond the immediate community in which the warehouse was functioning.

Plan and Progress of Work: The following table shows the increase in licensed warehouse capacity by products from June 30, 1938 to June 30, 1940. It graphically depicts the growth in the licensing of cotton and grain warehouses.

	Licensed capacity, June 30, 1938	Licensed capacity, June 30, 1939	Licensed capacity, June 30, 1940
Cotton (bales).....	6,536,767	8,961,516	10,048,458
Grain (bushels).....	131,186,870	179,874,220	187,744,220
Wool (pounds).....	36,798,420	55,213,420	43,266,420
Tobacco (pounds).....	164,481,000	170,211,000	174,161,000
Peanuts (tons).....	14,635	20,710	21,275
Broomcorn (bales).....	20,250	17,500	17,500
Beans (Cwt.).....	3,931,000	4,017,500	4,049,500
Sirup (gallons).....	55,000	298,440	317,740
Dried Fruit (pounds).....	3,900,000	2,922,000	2,922,000
Cold-pack Fruit (pounds)...	2,688,000	3,383,000	6,915,950
Canned Foods (cases).....	4,612,730	5,196,900	6,138,400
Seeds (Cwt.).....	500,914	503,251	503,251
Cherries in Brine (pounds).	5,298,000	10,880,000	10,886,043

There is substantial evidence that there will be a considerable demand for licensing of additional cotton and grain storage facilities during the coming year. In fact, at this time there are more applications for grain storage facilities than at the same time in any other year. If the loan programs continue there is every reason to believe that the demand that will be made for licensed storage facilities will be greater than ever. For both cotton and grain, operators of some of the largest facilities that still remain unlicensed have indicated their intention to license.

Field offices are maintained at Little Rock, Ark., Atlanta, Ga., Raleigh, N. C., Wichita, Kans., Omaha, Nebr., Portland, Ore., New Orleans, La., Indianapolis, Ind., and Memphis, Tenn.

(m) FEDERAL SEED ACT

Appropriation Act, 1941.....	\$85,000
Budget estimate, 1942.....	<u>85,000</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Enforcement activities under the Federal Seed Act.....	\$61,614	\$84,750	\$84,750
2. International Seed-Testing Congress; Expenses to Meet the Share of the United States.....	250	250	250
Unobligated balance.....	429	- -	- -
Total.....	<u>a/62,293</u>	85,000	85,000

a/ Includes \$10,000 carried in the First Deficiency Act of 1940.

WORK UNDER THIS APPROPRIATION

Objective: To administer the Federal Seed Act in such a manner as to (1) protect the consumer of seed from false labeling and advertising in interstate commerce; (2) permit the prompt testing and release, re-cleaning, or staining of seed offered for importation into the United States; (3) control the interstate shipment and importation of screenings prohibited by the Act; and (4) develop uniform methods of testing new range grasses and other seeds to determine their value for seeding purposes.

The Problem: The Federal Seed Act of August 9, 1939, requires complete labeling of agricultural and vegetable seeds shipped in interstate

commerce for seeding purposes. Adequate enforcement requires inspection of seed in all States, the testing of samples for pure seed content, germination, noxious weed seed determinations, and for determinations as to variety. Inspection of seedsmen's records is also necessary. Under the Seed Act in effect prior to February 5, 1940, labeling was not required, but false and fraudulent labeling was prohibited. Approximately 100 complaints were investigated and 500 samples were tested each year. These complaints were made by State officials. Interest in the new Act has brought about complaints from seedsmen and State officials indicating the need for increased investigational activity and seed testing.

Significance: This Act requires that seed be completely and correctly labeled thus enabling the farmer to avoid the purchase of unwanted, inferior or unadapted seed. The farmer is seldom in position to determine for himself the quality of the seed which he buys. Consequently, he must depend upon the claims of the vendor as to the germination, purity, weed content and variety. If these claims be false or misleading the farmer's loss is not confined to the money which is actually expended for the seed but the loss of his labor and time that goes into the effort to produce a crop. A few dollars expended for poor seed may, therefore, mean the loss to the farmer of a whole year's work. The enforcement of the Act is, therefore, a direct benefit to the farmer in protecting him against false or fraudulent labeling and advertising of seed.

Plan and Progress of the Work:

(a) Work in connection with imports increasing. The Seed Act in effect prior to February 5, 1940, required that 20 kinds of imported seed meet a fixed standard of quality. The present Act requires that all imported agricultural and vegetable seeds meet a definite quality standard. During the first nine months of operation under the new Federal Seed Act (February 5 to November 1, 1940) a total of 3,730 lots of seed was offered for import as compared with 1,320 lots offered during the same period in 1939. The samples under the Act that was in effect prior to February 5, 1940 were tested for pure seed and germination, whereas under the present Act a more complete test including a detailed examination for noxious weed seed content is required. This added work consumes approximately one-third more time per sample tested.

(b) Method of testing screenings needs study. The importation of screenings of all except 15 kinds of seed is prohibited; shipment in interstate commerce for seeding purposes of screenings of all kinds of seed is prohibited. To properly administer this phase of the Federal Seed Act will require a study of the methods of testing screenings. This is important in view of the distribution of noxious weed seeds through screenings removed from commercial lots of imported seed.

(c) Need for uniform tests and new methods of testing. New agricultural practices have encouraged the production in the United States and the importation of several new range grasses not previously encountered in the seed trade in this country. In all, there are about 24 such grasses -- some of the more important being Bahia grass, Blue stem and Buffalo grass. Uniform methods of testing many of these grasses have not been developed.

(d) Number of samples received for interstate tests. The number of samples received for testing in connection with complaints on seed shipped in interstate commerce totaled 538 in 1939. It is estimated that in excess of 1,000 samples will be received in 1942. The activities with respect to inspection of records required in connection with the administration of the Federal Seed Act will materially increase.

(e) Release of imported seed. Seed offered for importation is held intact under bond by the importer or consignee awaiting results of tests made by the Department of Agriculture to determine whether the seed may be released into the commerce of the United States. It is essential that seed testing laboratories be staffed to permit the prompt testing and release of such seed and thus prevent the obstruction of seed commerce.

The work is conducted insofar as possible in cooperation with the State. By working closely with the State enforcement agencies the cost of enforcement is reduced and much more adequate coverage of the field is secured than would otherwise be possible with the funds appropriated. From the long-time standpoint the more important result of this method of operation is the tendency to bring about more uniformity between States in the various seed laws and the enforcement activities.

Six field laboratories are maintained in cooperation with the State in which they are located. These laboratories are located at Columbia, Mo., Lafayette, Ind., Sacramento, Calif., and Corvallis, Oreg., Fargo, N. Dak. and Montgomery, Ala.

International Seed Testing Congress

Because of the desirability of having international rules for testing seeds to insure uniformity, an International Seed Testing Congress was established. The congress also deals with other problems relating to international trade in seeds. The \$250 appropriated for the work represents the United States' proportion of the expenses for maintaining the organization. Each year the Department of Agriculture has turned the money over to the State Department for transmittal to the congress at Stockholm, Sweden.

(n) PACKERS AND STOCKYARDS ACT

Appropriation Act, 1941..... \$381,879
 Budget estimate, 1942..... 381,879

PROJECT STATEMENT

Project	1940	1941 (estimated)	1942 (estimated)
1. Enforcement of the Packers and Stockyards Act.....	\$377,317	\$381,879	\$381,879
Unobligated balance.....	4,562	- -	- -
Total	381,879	381,879	381,879

WORK UNDER THIS APPROPRIATION

Objective: To enforce the provisions of the Packers and Stockyards Act by adequate supervision over stockyard operators, registrants and licensees at posted stockyards and designated live-poultry markets.

(a) To insure that the firms under supervision are solvent; that all agencies operating under the Act adhere to their published tariffs; that rates charged and services furnished are reasonable and non-discriminatory, and that open competitive conditions exist at the posted livestock markets and designated live-poultry markets under the Act so that shippers and producers may patronize those markets freely with a reasonable assurance that their products will be properly handled, that they will suffer no discrimination, and so that losses due to improper financial transactions will be kept to a minimum.

(b) To conduct special investigations arising out of unusual circumstances involving unfair trade practices and insolvencies resulting from violations of the Act or the peculations of dishonest employees causing losses to producers, and similar matters which can not be foreseen, but which must be provided for.

The Problem: Changed conditions resulting from the shipment of smaller consignments of livestock by truck, the growth of auction markets and the development of direct buying by packers, have tended toward decentralization of marketing operations, resulting in an increase in the number of stockyards posted under the Act. The number of posted yards increased from 140 in 1937 to 199 at the close of the fiscal year 1940, and the number of registrants and licenses increased from 5,291 to 5,740 during the same period. This has extended the scope of the supervision required.

Inasmuch as maximum rates have been fixed at the majority of the large terminal livestock markets either by the Secretary or by voluntary action, the income to be derived is dependent on the volume of receipts, the number of firms operating, and the business-getting capacity of the individual firms. This means that there is a constant shift of agencies between markets, a seasonal increase and decline, depending on what the traffic will bear. In addition, due to the tendency toward decentralization there is noticeable a gradual decline in the registrants at the large markets with a corresponding increase in the registrants at the smaller markets with the distinction that whereas a firm might register to do business at one of the large markets, they may now register to do business at a number of smaller markets.

Orders prescribing schedules of reasonable livestock commission rates have been issued at nine of the principal terminal markets, and five other important markets voluntarily filed such rates which were accepted without formal hearings. Orders have been issued prescribing reasonable stockyard rates at six of the principal terminal markets. Petitions for modification of rates under formal orders heretofore prescribed are frequently received due to increased costs of operation alleged to result from increased wage scales, workmen's compensation charges, social security deductions, old age pensions, Federal taxes, and similar expenses. The proper disposition of these petitions requires the assignment of accountants to make detailed examinations of petitioner's records. An opinion rendered by the Solicitor of the Department has required the informal disposition of such petitions to be abandoned, and in lieu thereof the holding of formal hearings.

Significance: It was the intent of the Congress that the interests of livestock shippers and producers should be protected at the central markets; that they would pay just and reasonable rates and receive reasonable services therefor; that their stock would be marketed free from unfair restraint and discriminatory practices; and that every effort would be made to insure the safety of the proceeds due the shipper. As a result of stockyard and commission rate proceedings already held it is estimated that from \$1,200,000 to \$2,000,000 annually has been saved to producers and shippers in the reduced charges made by stockyard companies, market agencies, and licensees.

In addition to the formal rate cases all other tariffs are carefully reviewed before being accepted and if the tariff appears to be unreasonable the matter is taken up with the parties submitting the tariff with the recommendation that it either be withdrawn or revised. In the ordinary procedure, questions involving the great majority of tariffs of this character are disposed of informally, resulting in material savings to shippers and producers, the amount of which can not be readily computed.

The enactment of the live-poultry provisions of the Act in 1935 has placed on the Service the added responsibility for preventing unfair, deceptive, and fraudulent practices in the handling of live poultry, to insure a fair return therefor to the producer or shipper, and to prevent unduly enhancing the cost to consumers. The absence of a bonding provision, requiring that handlers of live poultry and furnishers of facilities maintain adequate bonds to secure the performance of their obligations, imposes full responsi-

bility for anticipating and preventing losses to shippers and producers through insolvencies. Due to the hazards of the business, arising in part out of the perishable nature of the commodity, the fluctuation in prices, and frequently to inadequate capital, there is need at the larger live-poultry markets for almost constant examination of the records of licensees in order to determine whether or not action is necessary to correct unfair practices, or to safeguard the interests of shippers of live poultry and prevent losses to producers due to insufficient finances.

Plan and Progress of Work: Investigations are conducted throughout the country for the purpose of ascertaining those stockyards which come within the provisions of the Act and when such stockyards are found they are posted as required by the statute. Thereafter supervisors see to it that the stockyard companies file and publish tariffs of rates and charges and that all market agencies and dealers engaged in business at such stockyards register and, if they incur financial obligations in the conduct of their business, execute and maintain suitable bonds as prescribed by the regulations to secure the performance of such obligations. Market agencies engaged in rendering stockyard services are required to file and publish tariffs, setting out their rates and charges. The Act requires stockyard companies, market agencies, and dealers to maintain accounts, records, and memoranda which fully and accurately disclose all of their transactions, and accountants are detailed from time to time to make examinations of such books and records for the purpose of determining whether they are being kept as required by the statute.

Supervisors are stationed at the principal markets with staffs of assistants and accountants. Supervision is maintained generally over marketing practices and conditions. Complaints are investigated and audits are made of the books and records of stockyard companies, market agencies, and dealers in connection with complaints in order to determine matters of solvency and proper accounting for sale of livestock and, in those cases where the facts warrant, informal disposition of complaints is made. In other cases, where the facts indicate more serious types of violations, formal proceedings are instituted, resulting in orders requiring the offending parties either to cease and desist from the violations or, in more flagrant cases, suspending their registrations for specified periods. Complaints by producers, shippers of livestock, and others, alleging damages as the result of violations of the Act, are served as required by the statute and if the facts warrant hearings are held and awards of reparation made to the damaged parties.

In practically all formal cases held under the jurisdiction of the Act, with the exception of those involving bonds and reparations, it is necessary in order to lay the basis for the cases to have audits prepared, usually for introduction as evidence in the cases.

Audits have been made during the past five years as indicated below:

Fiscal Year	Routine Stockyard Audits	Market Agency Audits		Poultry Licensee Audits	Total Audits
		Insolvency and Trade Practice			
1936	13	43		300	356
1937	9	36		209	254
1938	7	59		448	514
1939	11	100		170	281
1940	7	181		180	368

Investigations are made of the reasonableness of the rates and charges of stockyard companies and market agencies. In the case of stockyard companies the investigation requires the valuation by a staff of engineers of the property and extensive audits of the books and records in order to determine the fair value of the property used in rendering the services and a fair rate of return thereon. In the case of livestock market agencies the investigation requires exhaustive analysis of the books and records of the agencies for the purpose of determining the reasonable costs of rendering the service and the rates prescribed are based upon such reasonable costs.

The Act was amended, effective August 14, 1935, by the addition of Title V relating to live-poultry dealers and handlers. The amendment states that the handling of live-poultry in large centers of population is attendant with various unfair, deceptive, and fraudulent practices and devices resulting in losses to producers and in enhancing the cost to consumers. Such practices and devices are declared to be an undue restraint and unjust burden on interstate commerce. Investigations have been made of the handling and marketing of live poultry in a number of cities and the practices in the marketing of poultry in eight markets serving sixteen cities have been found to be such as to warrant designation. Investigations are made from time to time of other cities and places to determine whether they should be designated. After a market has been designated all persons handling live poultry in interstate commerce therein are required to be licensed. Applicants must furnish a certified balance sheet from which their financial responsibility may be learned, or must establish this fact through open hearing before a representative of the Secretary. Hearings may also be had to establish whether or not an applicant is entitled to a license through having engaged in any practice of the character prohibited by the Act within two years prior to his application. Licensees must establish their solvency and are required to file their tariffs of charges for services rendered.

The live-poultry licensees are distributed as follows at present:

Boston, Mass.	125	Newark, N. J.	170
Camden, N.J.	11	New York, N.Y. ...	413
Chicago, Ill.	328	Philadelphia, Pa..	529
Jersey City, N.J. .	16	St. Louis, Mo. ...	192

Practically all livestock and live poultry is sold by weight. Supervision is maintained over the scales at posted markets and the scales operated by licensees for the purpose of insuring that these scales will give accurate weights. In addition the practices of the weighers in operating the scales are observed by district supervisors for the purpose of seeing that the scales are properly operated. The representatives of the division are working with the operators of the various posted markets for the purpose of improving weighing practices so that shippers will receive correct weights and so that there will be no discrimination between markets.

The formal dockets handled during the past five years are shown below:

<u>Fiscal Year</u>	<u>Dockets pending July 1</u>	<u>New dockets</u>	<u>Hearings reopened</u>	<u>Total</u>	<u>Dockets disposed of</u>	<u>Dockets pending June 30</u>
1936	15	89	--	104	72	32
1937	32	312	5	349	200	149
1938	149	276	17	425	381	61
1939	61	78	2	141	104	57
1940	37	73	8	118	76	42

The relatively large number of new dockets in 1937 and 1938 resulted from applications for licenses to handle live poultry at designated markets under the recently enacted amendment, Title V, to the Packers and Stockyards Act.

Of the 73 new dockets instituted during the year, 58 involved trade practices and reparation, 3 failure to maintain bonds, 2 insolvency, 9 applications for poultry licenses, and 1 stockyard rate inquiry. Cease-and-desist orders were issued in 32 dockets, reparation orders in 7, orders denying licenses in 4, orders of dismissal in 22, orders to keep records in 2, in 2 dockets orders respectively suspending a registration and a license, and orders revoking licenses in 7.

(o) NAVAL STORES ACT

Appropriation Act, 1941.....	\$34,700
Budget estimate, 1942.....	<u>34,700</u>

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Enforcement operations under the Naval Stores Act...	\$17,582	\$24,185	\$24,185
2. Service operations under the Naval Stores Act.....	7,241	10,515	10,515
Unobligated balance	9,877	- -	- -
Total.....	34,700	34,700	34,700

This item, appropriated for 1941 under "Salaries and expenses, Food and Drug Administration," was transferred to "Salaries and expenses, Agricultural Marketing Service," pursuant to the Reorganization Act of 1939 and Reorganization Plan no. IV.

WORK UNDER THIS APPROPRIATION

General. The work conducted under this appropriation is concerned with the putting into effect of the various features of the Naval Stores Act of 1923, which has three primary purposes. These are (1) the control of the sale in interstate commerce of naval stores, which under the Act are defined as spirits of turpentine and rosin; (2) the provision of a governmental inspection service for producers and dealers who may wish to avail themselves of the benefits thereof; and (3) the establishment of Official U. S. Standards for rosin, and the preparation and loan of duplicate standards to persons engaged in the production, inspection, distribution, consumption or chemical research work on rosin.

Project 1. Enforcement Operations under the Act:

Objective: The enforcement or regulatory operations are intended to prevent the sale and shipment in interstate commerce of adulterated, mislabeled, or misgraded spirits of turpentine and rosin, and to protect purchasers and consumers of naval stores from receiving articles which are other than what they are represented to be, or from being deceitfully misled as to the exact nature thereof.

Significance: There are four different kinds of spirits of turpentine now regularly produced and marketed, and each kind must be described and sold under its own standard of identity. There are two different kinds of rosin, namely, gum rosin and wood rosin, all of which must be sold by grade. The grade of rosin depends largely on color, the higher or more valuable grades being of a lighter, or yellow color, and the lower grades having a darker, or redder color.

The annual production of spirits of turpentine and rosin of all kinds in the United States amounts at this time to approximately 35,000,000

gallons and 2,600,000 barrels (equal to about 650,000 tons), respectively. Heretofore about fifty percent of this quantity was consumed in the domestic market, the balance being exported to all parts of the world. The United States is by far the largest producer of naval stores in the world and our exports account for about 70 percent of the total moving in international trade. Turpentine is one of the commodities in general use that is easier to adulterate, since it readily mixes in almost any proportion with many other volatile oils such as mineral distillates that are usually much cheaper and less suitable for the purpose for which turpentine is used. Both physical and financial protection of the uninformed purchaser are involved in this work.

In the case of rosin, the quality of a finished product such as a soap, varnish or synthetic resin made from rosin, depends largely on the use of the proper kind and grade, the requirements in most cases having been determined from carefully developed and tested formulae. In this case also, since the value of rosin depends primarily on its color grade, the receipt of properly and correctly graded rosin affects the purchaser financially; and the accuracy of grading must be maintained to guarantee to the honest dealer fair competition in selling, and to the consumer a fair price for his purchases. The principal products in which rosin is used are varnishes, soaps, synthetic and modified resins for use in varnishes and plastics, electrical insulating compounds, paper, adhesives, printing inks and many other industrial products.

Plan and Progress of Work: Samples of turpentine are collected from shipments originating at Southern producing and primary distributing points, and from Northern distributors. These are subjected to chemical analysis and other tests to determine purity, proper identification as to kind, propriety of label statements, and conformity with the established standards. Shipments of rosin are sampled and graded to determine the correctness of classification, grading, and marking in accordance with the standards provided therefor by the Naval Stores Act. It has not been possible to give attention to each seller's shipments each year, most attention being given to firms suspected of adulteration or violation of one or more of the regulatory provisions of the Act. Most of the surveillance has been on turpentine and thinners and solvents sold in competition therewith. About ten percent of the samples collected each year have been found to require correction of labeling or otherwise describing the articles. More extensive check is needed on the grading of rosins moving to consumers.

Project 2. Service Operations under the Act:

Objective: A number of producers and dealers in naval stores, especially rosin, in order to be assured of the correctness of the classification and grading of their wares, and in order to have such grading service rendered regularly at the points of production, request the Department to classify and grade their products. This service is generally conducted on a seasonal basis under pre-arranged schedules and travel itineraries. For such services the requesting parties pay fees established therefor by regulations of the Secretary, to cover the cost of the work.

To render this service standards have been established and are uniformly applied by Federal inspectors.

Significance: The inspection and grading of turpentine and rosin by experienced Federal inspectors, and the certification of the results of such inspections relieve the persons for whom such service is rendered of responsibility and prevent disputes and claims, as well as violations of the Act that might arise through misgrading. This service is extended frequently to consumer purchasers who have reason to question the compliance of their consignments with purchase specifications. The Federal certificate of analysis, classification and grade is accepted as final in the settlement of disputes that arise from time to time between buyer and seller as to the quality and grade of deliveries, or compliance with specifications. An additional and very valuable feature of this work is the assistance rendered in the development of suitable specifications and test methods for naval stores products through the collaborative analytical and testing work carried on jointly with individuals and firms holding membership in certain scientific societies, such as the American Society for Testing Materials.

Plan and Progress of Work: Experienced and qualified inspector-graders are maintained at three conveniently located points in the Southern naval stores producing sections from which they can readily reach the stills or concentration yards where the naval stores are made or stored. During the past five years approximately 3,773 samples of turpentine, representing approximately 200,000 barrels, and 556,000 barrels and drums of rosin have been classified, graded and certified on request. In addition, during the past three years service has been rendered to the Commodity Credit Corporation in connection with Federal loans to producers, turpentine and rosin being taken as collateral, which for the most part finally become the property of the Commodity Credit Corporation for disposition through recognized dealers under a systematic liquidation plan. The correctness of the grading of the rosin taken as collateral, and the quality and marketability of the turpentine accepted and held in commercial turpentine storage tanks at the concentration or warehousing points is checked by monthly or semi-monthly supervisory inspection, grading and analysis of the stocks.

The Act provides for the preparation of sets of standards which are issued on loan to State or local inspectors, producers, dealers, and consumers of rosin, under regulations of the Secretary. Under the Naval Stores Act the standards cannot be sold. Most sets out on loan are covered by a security deposit of \$100.00 per set.

(p) INSECTICIDE ACT

Appropriation Act, 1941..... \$193,180
 Budget estimate, 1942 193,180

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
1. Enforcement operations under the Insecticide Act....	\$165,254	\$167,580	\$167,580
2. Investigation of methods of testing and efficacy of insecticides and fungicides...	25,000	25,600	25,600
Unobligated balance.....	2,926	- -	- -
Total.....	193,180	193,180	193,180

This item, appropriated for 1941 under "Salaries and expenses, Food and Drug Administration" was transferred to "Salaries and expenses, Agricultural Marketing Service" pursuant to the Reorganization Act of 1939 and Reorganization Plan no. IV.

WORK UNDER THIS APPROPRIATION

General. This appropriation is to enforce the Insecticide Act of 1910, which makes illegal the transportation in interstate commerce of misbranded or adulterated insecticides and fungicides as well as their importation and exportation. The work is in two phases: (1) Direct enforcement operations which involve collection and testing of samples of commercial products to determine whether they comply with the law, and (2) development of methods for testing the efficacy of insecticides and fungicides.

In order to support legal action in case of violation of the law it is necessary to present reliable analyses and tests of the products involved. For this purpose standard methods of analysis and tests must be developed and their accuracy established. The direct enforcement operations are therefore dependent upon the development of testing methods.

Project 1. Enforcement Operations under the Insecticide Act

Objective: To prevent the shipment in interstate commerce, importation, exportation, or sale in the District of Columbia or the territories of misbranded insecticides and fungicides, and to protect the consumer from faulty materials which not only may be worthless for the purposes intended but may actually destroy an orchard or a crop.

The Problem: There are in this country approximately 600 firms doing a regular insecticide manufacturing business and a much larger number of small operators who put out one or more such products as a side line. The firms doing a regular insecticide and fungicide manufacturing business usually put out a number of different proprietary products, ranging up to as high as several hundred different preparations by one firm. It is estimated that there are about 15,000 different insecticides and fungicides on the market, the larger portion of which go into interstate commerce. Furthermore, new products are continually appearing on the market so that it is a constantly changing field.

When a sample of an insecticide or fungicide is collected it must be analyzed and its labeling considered to determine the accuracy of the claims. In some cases the claims can be passed upon on the basis of previous experience with products of like composition but a large proportion of them must be actually tested by the entomologist, the plant pathologist, or the bacteriologist, depending upon the type of claims on the label. Some tests, such as those against flies and roaches, can be made within a few days. Others, such as those involving many plant insects and plant diseases, must be made when such insects and diseases are prevalent and often cover a period of two or three years.

Significance: The field covered by this Act includes the important insecticides and fungicides used in protecting fruits, vegetables, and field crops from insects and disease; insecticides for use against insects attacking man and other animals; the so-called household insecticides for use against such insects as houseflies, mosquitoes, roaches, ants, etc., seed and soil treating material and disinfectants used in preventing the spread of communicable diseases of man, farm animals, and pets, as well as in the disinfecting of dairy and food establishment equipment to aid in producing a better grade of products.

The retail value of insecticides and plant fungicides is estimated at not less than \$100,000,000. In addition there is a very large market for disinfectants. These figures, however, do not properly measure the importance of the products since they are used to protect crops and animals worth many times their value. Entomologists of the Bureau of Entomology and Plant Quarantine have estimated that insect damage to crops in this country amounts to \$2,000,000,000 annually, and plant pathologists state that equal losses are sustained from plant diseases. A faulty product may result not only in loss of the money expended but also in loss of a crop or in serious injury to orchard trees, such as frequently occurred before enforcement of the Act.

Plan and Progress of Work: It is manifestly impossible to cover every product yearly. An attempt is made, however, to examine a few samples annually of each of the major agricultural insecticides which are marketed in large quantities and are particularly likely to cause plant injury if improperly made. Other products are examined less frequently and a particular effort is made to obtain samples of new products. This is not considered adequate coverage since one or two samples cannot be depended

upon to be representative of an annual production which may reach several million pounds, and sampling every three or four years does not give sufficient information on other insecticides and fungicides. However, especial care must be given to new products since they are frequently more seriously misbranded or adulterated than products which have become established.

For the past five years there have been examined an average of about 2,000 samples a year, more than 500 of which are new products. During the fiscal year 1940, about 20% of the samples examined were found to be misbranded or adulterated. In some cases the misbranding was not of a serious nature and labeling was immediately corrected by the manufacturer, but in 70 cases the violation was of such a nature as to warrant prosecution or seizure.

Project 2. Development of Methods for Testing the Efficacy of Insecticides and Fungicides.

Objective: To develop methods of chemical analysis and biological testing of insecticides and fungicides and to determine the insecticidal and fungicidal activity of the ingredients of such products.

The Problem: All samples collected under the Act must be analyzed. Methods of analysis for many of the older standardized products such as lead arsenate, calcium arsenate, bordeaux mixture, and nicotine solution have been worked out and officially adopted but it has not yet been possible to develop satisfactory methods for some of the more complex of the older preparations, and new types of preparations for which new methods must be developed are continually coming on the market. There have been many attempts, particularly in recent years, to use complex organic preparations to replace inorganic poisons such as arsenicals and fluorides in insecticides, and organic fungicides have also been marketed. Therefore, it is necessary to be working on this problem continuously if the analytical methods are to be kept up to date. These tests must be accurate and must be of a character to be convincing as court evidence in prosecution cases.

Significance: In the enforcement of the Act it is necessary to determine whether the label of a product subject to it bears a statement of ingredients in compliance with the Act and whether the efficacy claims for the product are truthful. An accurate chemical analysis must, of course, be the basis for judging the ingredient statement. It may also be the basis on which the accuracy of the efficacy claims are determined. When this can be done it materially expedites the work since insecticidal and fungicidal tests are frequently long and difficult.

As an example of what has been done along this line the development of a method for pyrethrins in the ordinary household fly sprays containing pyrethrin extract may be cited. It is estimated that there are more than a thousand such products on the market. Until the development of the method for pyrethrins the only way to determine whether or not such preparations were effective was to test them against flies, which tests required about two days for each. Since the method has been used

the entomologist is able to say without test that if a product contains the required amount of pyrethrins it will be effective. Only a few of the borderline cases require tests. This, naturally, permits an increase in volume of work.

Fungicides used on plants are intended to prevent infection. They do not ordinarily have any value in curing diseases which may already be present. Therefore, in testing a fungicide it is necessary that it be on the plant at the time infection is expected. This may be for only a limited period during the growing season or it may be during the whole season. Some years, due to weather conditions and other factors, no infection may be present, in which case the tests will be failures and the tests must be repeated another season.

Plan and Progress of Work: Investigation of methods for testing the efficacy of these products is carried out in close cooperation with the direct enforcement activities. When it becomes necessary in the enforcement work to analyze a new type of product efforts are made to develop a method of analysis. When a product is recommended for certain insects, plant diseases, and disinfecting uses, efforts are made to develop biological tests to prove or disprove the claims. At all times a close watch is kept for any correlation between composition and effects obtained.

Recent work under this project includes development on methods for evaluating two important plant insecticides -- pyrethrum and derris; investigation of the determination of formaldehyde (a disinfectant and seed treating material) in mixtures with solvents in which it is commonly used; and studies which resulted in the adoption of improved methods for the determination of fluorine in insecticides. It has also included the testing against moths of many types of materials intended for mothproofing, and tests of roach preparations and fly repellents as well as the testing of many materials used to control plant insects.

A number of new copper fungicides intended to replace bordeaux mixture are undergoing tests with indications at the present time that few or none of them have completely eliminated the danger of copper injury and most of them are not fully as effective as bordeaux mixtures. As a result of these tests the labels of such products have been required to bear warning statements in cases of certain uses.

Bacteriological investigation has been made of the fumigation of incubators with formaldehyde to determine the dosage necessary to protect against the organism causing serious disease of chicks. Considerable advance has also been made on the composition of the media used for growing bacteria required for testing disinfectants.

These investigations are indispensable for effective enforcement operations. Due to the complexity of the field and continued changes in it they are of a continuous nature.

(q) FARM PRODUCTS INSPECTIONS, AGRICULTURAL MARKETING SERVICE
(TRUST ACCOUNT)

PROJECT STATEMENT

Project	1940	1941 (estimated)	1942 (estimated)
Inspection and grading of farm products under cooperative agreements	\$287,511	\$378,313	\$450,300

WORK UNDER THIS APPROPRIATION

Under authority of the Agricultural Appropriation Act, the Secretary of Agriculture provides an inspection and grading service for farm products upon the application of an interested party. This service is supported in part by the appropriation "Salaries and Expenses, Market Inspection of Farm Products", and in part by fees charged for the services. These fees are covered into the Treasury as a special trust fund and are appropriated and made available for the payment of refunds and expenses in connection with the work provided for under cooperative agreements.

(r) COMMODITY CREDIT CORPORATION, CLASSIFICATION OF COTTON,
(AGRICULTURAL MARKETING SERVICE)
(TRUST ACCOUNT)

Project	1940	1941 (estimated)	1942 (estimated)
Classification of Cotton for Commodity Credit Corporation	\$121,040	\$378,960	\$375,000

WORK UNDER THIS APPROPRIATION

This fund is advanced by the Commodity Credit Corporation and appropriated for the classification of cotton, according to agreement between Agricultural Marketing Service and Commodity Credit Corporation, by specialists in cotton classing employed by Agricultural Marketing Service in connection with loans made by the Commodity Credit Corporation under the provisions of Section 302 of the Agricultural Adjustment Act of 1938, as amended.

SUPPLEMENTAL FUNDS

(Complete bureau statement)

(1) Direct Allotments

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Working Fund, Agriculture, Agricultural Marketing Service, (Advance from Census Bureau):</u> For statistical and other services in connection with the 1940 Census of Agriculture .	\$34,888	\$30,000	- -
<u>Incidental Expenses of the Army (Transfer from War Department):</u> Inspection of hay and supervision of Army hay inspectors	2,250	3,250	3,250
<u>Exportation and Domestic Consumption of Agricultural Commodities, Department of Agriculture, Agri. Mktg. Service:</u> For classing cotton under the provisions of the One-Variety Cotton Export Program regulations ...	4,801	18,500	- -
<u>Working Fund, Advance from Administrative Expenses, Commodity Credit Corporation, Department of Agriculture, Agri. Mktg. Service:</u> For classing cotton for the Commodity Credit Corporation	24,434	- -	- -
<u>Special Research Fund, Department of Agriculture:</u> Special researches on the marketing of farm products	69,669	85,650	67,950
<u>Salaries and expenses, Agricultural Adjustment Administration:</u> Estimates and reports on fruit and vegetable crops, and special services in connection with standards for canned fruits and vegetables; statistics of prices paid by farmers	119,882	135,000	130,000

SUPPLEMENTAL FUNDS - Continued

(1) Direct Allotments - Continued

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Conservation and Use of Agricultural Land Resources, Department of Agriculture:</u> Crop production data as a basis for determination of acre- age allotments, normal yields and marketing quotas	\$219,609	\$150,000	\$130,000
<u>Parity Payments, Department of Agri- culture:</u> Crop production data as a basis for determination of acreage allotments, normal yields and marketing quotas	- -	100,000	100,000
<u>Federal Crop Insurance Act:</u> Gathering and compiling production statistics, and furnishing daily price quotations for use in the administration of the Federal Crop Insurance Act	28,338	21,900	21,900
<u>Emergency Relief Appropriation Act:</u> Survey of farm employment, prices paid by farmers, and prices paid to farmers	43,452	162,300	- -
Administrative expense	1,200	6,558	- -
Total, Emergency Relief Appro- priation Act.....	44,652	174,858	- -
Total, Supplemental funds (direct allotments)	548,573	699,158	453,100

PASSENGER-CARRYING VEHICLES

The authorization for purchase of passenger-carrying vehicles for Agricultural Marketing Service for the current fiscal year is \$41,900, including \$40,100 authorized in the Agricultural Appropriation Act of 1941 and \$1,800 transferred from Food and Drug Administration effective July 1, 1940. The amount estimated for 1942 is \$44,400, an increase of \$2,500. This \$44,400 will permit the replacement of 76 worn-out vehicles at a net average cost of \$550 each when exchange allowances are taken into account, and the purchase of 4 additional vehicles, at an average cost of \$650 each.

One of the additional cars will be required in connection with Federal supervision of soybean inspection. It will be used by supervisory personnel to cover the production area in Illinois. Formerly, soybean inspection work has been conducted on a voluntary inspection basis. However, as a result of the amendment to the Grain Standards Act, approved July 18, 1940, making Federal grades for soybeans mandatory, it is expected that there will be a large increase in soybean inspections in 1942.

Three additional cars will be used by warehouse examiners in the rapidly developing work in connection with the administration of the U. S. Warehouse Act. These examiners travel almost continuously inspecting warehouses licensed, or to be licensed, under the Act. Warehouses are often located on spur lines or in small settlements where public transportation is inadequate or not available. It is necessary, therefore, that cars be furnished, in order that warehouse examiners may cover large areas quickly.

From past experience it has been determined that the average period of efficient use of a car in this Service is approximately four years. The Agricultural Marketing Service therefore contemplates replacing about one-fourth of its cars during the fiscal year 1942. With few exceptions the cars travel on an average of between 10,000 and 14,000 miles per year so that by the time they are replaced they have travelled approximately 43,000 miles. These machines are operated throughout the year under practically all conditions of use, ranging from city streets to very rough country roads. In the past it has been found that cars cannot be operated efficiently, safely, or economically beyond this age and mileage.

The use of passenger-carrying cars is necessary to the efficient conduct of the field work of the Agricultural Marketing Service. Inspectors and graders must move quickly between markets, warehouses, and railroad yards. In most cases it is not possible to obtain the necessary transportation promptly enough to enable employees to conduct their work without much loss of time. In the case of the market news service, speed is the essence of the service, and where several markets must be covered the work cannot be done without the use of a car.

BUREAU OF HOME ECONOMICS

(a) GENERAL ADMINISTRATIVE EXPENSES

Appropriation Act, 1941.....\$31,735
 Budget Estimate, 1942.....31,735

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)
General administration and business service.	\$31,585	\$31,735	\$31,735
Unobligated balance.....	150	- - -	- - -
Total appropriation.....	31,735	31,735	31,735

WORK UNDER THIS APPROPRIATION

The work conducted under this appropriation includes the general direction of the research and service activities, of the Bureau of Home Economics, including the determination of bureau policies and administrative supervision of the units of business management.

(b) HOME ECONOMICS INVESTIGATIONS

Appropriation Act, 1941.....\$291,310
 Budget Estimate, 1942.....301,310
 Increase.....10,000

PROJECT STATEMENT

Projects	1940	1941 (estimated)	1942 (estimated)	Increase
1. Foods and nutrition investigations.....	\$78,422	\$77,955	\$82,755	+\$4,800 (1)
2. Family economics investigations.....	74,347	73,833	73,833	- - -
3. Textiles and clothing investigations.....	94,022	93,870	97,490	+3,620 (1)
4. Housing and household equipment investigations.....	23,916	23,986	25,566	+1,580 (1)
5. Home economics information....	21,793	21,666	21,666	- - -
Unobligated balance.....	850	- - -	- - -	- - -
Total appropriation.....	293,350	291,310	301,310	+10,000 (1)

INCREASE

(1) The increase of \$10,000 in this item is urgently needed to provide in part for increased maintenance costs estimated at \$16,400 per annum, arising out of the re-location of three of the major divisions of the Bureau (Textiles and Clothing, Foods and Nutrition, and Housing and Household Equipment) at the Beltsville Research Center. These divisions heretofore were housed in Washington where building maintenance was provided and financed by the Division of Buildings and Grounds, Federal Works Agency.

The Bureau's research program has been curtailed in order to provide for these maintenance costs, estimated at \$8,200, for the last half of the current fiscal year 1941, during which time the Bureau's laboratories will be stationed at Beltsville. This curtailment in the Bureau's work is serious since the present emergency has increased the demands upon the Bureau for home economics information needed by defense agencies, as well as for Federal, State, and local action programs.

Of the \$10,000 requested, \$8,200 is needed for heat, light, power, water, electricity and similar services, repairs and alterations, and like maintenance costs. The balance of \$1,800 would be used for re-establishing a position of Illustrator that has been unfilled during the current fiscal year 1941, because it was necessary to use these funds for maintenance at Beltsville. Services of such a worker are urgently needed for the popularization of the Bureau's research, especially its studies of nutrition. Having a well-fed people is one of the important concerns of the national defense program. Yet many families are inadequately nourished because of ignorance. Nutrition education of the nation's homemakers and industrial workers will be promoted by materials such as can be prepared with the aid of an illustrator--simple leaflets with pictures to illustrate instructions, film strips, exhibits and the like. Such materials will be used the country over and will be a real contribution of the Bureau to the maintenance of a strong people, ready to defend their country.

WORK UNDER THIS APPROPRIATION

General. The Bureau of Home Economics has as its major concern increasing the well-being of the Nation's families. Through its research and its publications, the Bureau of Home Economics is giving the homemaker the same kind of scientific help that other branches of the Government are giving the farmer, the manufacturer, and the merchant. Its function is to study utilization of food and fiber from the consumer standpoint, standards of living in American homes, human nutrition, dietary habits, and similar problems fundamental to the general welfare of farm and urban families.

The findings of the Bureau of Home Economics are basic to the formulation of the nutrition program as it applies to national de-

fense. The consumer-purchases data give a Nation-wide picture of what American families are eating and how and where diets need to be improved to make people stronger and more alert, mentally as well as physically.

Paralleling these data, showing the appalling number of diets below the safety level, are controlled laboratory experiments to determine adult requirements for the different vitamins -- notably A and B. For example, the amount of vitamin A needed to safeguard men against nutritional night blindness is obviously of the greatest importance to aviators and others engaged in hazardous occupations in both civil and military service. Such determinations, in terms of international vitamin A units, have been made by the Bureau's technicians, and similar research is being pushed on other diet essentials.

Likewise, research now under way in the textile laboratories on the mildew-proofing of cotton fabrics is being utilized by the U. S. Navy, and the work it is doing on sterilizing wool without damage to the fiber may result in great economy of uniforms and blankets, as well as aid in the control of infectious disease in cantonments.

A number of the Bureau's research projects are set up on a co-operative basis with other bureaus in the Department and with the State colleges of agriculture. For example, the Bureau supplies basic data to the Farm Security Administration as a guide for home and farm management plans for Farm Security clients, including plans for food production for family use. It cooperates in setting up specifications for and making tests on fabrics, clothing, and household equipment purchased cooperatively by the clients of the Farm Security Administration; also in setting up minimum standards for housing and types of equipment suited to needs of low-income farm families.

The Surplus Marketing Administration also looks to the Bureau of Home Economics for material on the nutritive value and household use of all foods officially declared in surplus for distribution to consumer.

Project 1. Foods and Nutrition Investigations:

Objective: To determine ways and means for improving the welfare and efficiency of all persons through better nutrition and better use of foods.

The Problem: One-third of the population of this country is not enjoying proper diet today according to recent governmental records. In order to advance better nutrition for the people, further knowledge is needed about nutritive requirements, food values, how to use food to better advantage, and how to adapt this information to specific food problems, including the food problems of national defense.

Significance: Foods and nutrition investigations are primarily directed toward learning how nutritional improvement for our people can be achieved and in making this knowledge available for practical application.

Plan of Work: This work includes (1) the summarization in practical and convenient form of data on the chemical composition of all classes of foods; (2) studies of the nutritional importance of specific food constituents, such as vitamins and minerals, and of the amount of such essential nutrients necessary for growth, maintenance, and well-being; (3) determination of changes in nutritive value of foods brought about by methods of production, marketing conditions, methods of preservation (such as storage, freezing, canning, etc.), and methods of preparation; (4) analysis of methods of food preparation, with a view to originating, improving, and standardizing processes; (5) establishment of the relation between variety, quality, and nutritive value of foods and their uses in food preservation; (6) evaluation of factors that enter into food quality; (7) investigations, in cooperation with producing groups, of the influence of variety, breeds, and other production factors on edible quality and nutritive value, as a basis for establishing quality standards for food products; (8) release of all these types of information through proper channels for practical use in improving the nutritional level of our people.

Project 2. Family Economics Investigations:

Objective: To learn the kind of living families have at different income levels, what they buy and how much they save; to determine whether their patterns of living measure up to what we call our national standard and, if not, what can be done to improve their well-being.

The Problem and Its Significance: Many American families are living at levels inadequate for health and decency. Research is needed to determine the number at substandard levels from time to time and how the well-being of these low-income groups and of families at even higher economic levels can be improved through their own and community efforts; also to provide facts needed by Government and other social agencies for formulating policies and programs that affect national well-being.

It is of prime importance, therefore, that the Bureau's work toward improving levels of living of the Nation's families go forward as one phase of preparation for defense. For example, the research of the Family Economics Division on the diets of low-income families points the way to procedures in distribution of surplus foods that will decrease malnutrition as well as benefit farmers. The Division's studies indicate that the food purchasing power of at least a fifth of the Nation's families would not enable them to buy fully adequate diets, even with wise choices. The Surplus Marketing Administration seeks the advice of the Division in connection with foods declared in surplus, so that its program may contribute the maximum to improving the diets of low-income groups. Many families, with higher incomes, could live better

if they used their resources more wisely. Education programs, based on the Bureau's research, help families at all income levels--low and high--to get greater returns for money spent for food and for other items of living.

Plan of Work: Research is now being concentrated upon the following studies: (1) ways in which the diets of the Nation's families (city, village, and farm) may be improved so that malnutrition will be less widespread; (2) how programs of agricultural production and use of surpluses may be better geared to the nutritional needs of the population; (3) studies of the income of farm families and of their habits of spending and saving in order (a) to help them improve their farm-home management plans for producing a living and getting ahead financially, and (b) to furnish basic facts to agencies working on programs of land use, tenancy, more stable farm income, and better living levels for farm families; (4) buying habits of farm and urban families that will show quantities and kinds of agricultural and other products purchased at different income levels.

Project 3. Textiles and Clothing Investigations:

Objective: To provide information which will (1) assist in more effective utilization, on a national scale, of American-grown textile fibers for clothing and household purposes, and (2) supply homemakers with facts that will aid them in making intelligent textile purchases on the retail market and in using and caring for the family's clothing and household textiles. Scientific data are developed and compiled for dissemination through technical and popular bulletins, periodicals, exhibits, and radio presentations.

The Problem: For many years the Department of Agriculture has been studying the production and marketing of textile fibers. It was not until the organization of the Bureau of Home Economics, however, that any attempt was made to link the physical and chemical qualities of these fibers with the performance of finished fabrics and to place emphasis on consumer problems related to agricultural production. The Department of Agriculture is the only agency with facilities for research on all three phases of a textile program -- production, marketing, and utilization; hence a particular responsibility is placed on its laboratories for leadership in this field. At the present time textile fabric research in this country is confined largely to isolated programs of independent commercial organizations and is focused on their specific commercial problems. The Bureau of Home Economics is the only impartial agency in a position to originate and conduct textile research from the standpoint of safeguarding the consumer's interests.

Significance: The Bureau restricts its textile research to consumer and producer problems of national significance. In addition, it has a responsibility in connection with providing data for national programs of various types. For example, its textile studies are closely coordinated with the extension work of the Department among farm families, and the results of the Bureau's research are disseminated in the form of

popular bulletins, posters, film strips, lantern-slide sets, and other types of illustrative material for use in extension classes. The Bureau also works with the Farm Security Administration in formulating specifications for and making tests on fabrics and clothing which are distributed through the cooperative stores set up in units established by the Administration. The Bureau of Home Economics cooperates with such agencies as the National Youth Administration and the American Red Cross in providing information on clothing needed in connection with their activities.

Plan of Work: The Bureau plans to continue its textile research involving both laboratory experimentation and actual service tests and to publish the results of this as well as compilations of other scientific material of value to homemakers. This work will consist of (1) determining the most appropriate fabric compositions and constructions and specifications for consumer clothing and textile uses, (2) originating fabric and garment designs acceptable to consumers and utilizing important American-grown textile products, (3) developing and publishing buying guides which will assist homemakers in selecting textiles best suited for their needs, and (4) disseminating information helpful to consumers in conserving the family's clothing and household textiles by protective treatments and by the most efficient storing and cleaning methods.

Project 4. Housing and Household Equipment Investigations:

Objective: (1) To obtain information which will assist consumers in the intelligent selection and use of equipment in relation to their individual needs and income. (2) To interpret consumers needs to manufacturers and to assist them in the standardizing of equipment. Housing studies are directed toward the development of minimum desirable standards for room sizes, storage space, and work centers that will not sacrifice efficiency or standards of family living but will at the same time keep costs at a minimum.

The Problem: During 1939 consumers spent approximately \$325,000,000 for electric refrigerators and hand irons. The investment made for these two items alone emphasizes the importance of furnishing consumers with information so that they may buy wisely. Consumers want unbiased information and their dependence upon Federal agencies for such help is evidenced by the volume of requests to the Bureau of Home Economics. An extended building program stimulated by both government and private funds has created an urgent need for information on housing, particularly for families of low income. Only Federal agencies are interested in housing problems of national scope, hence such studies must be financed with Federal funds.

Significance: Labor-saving equipment and conveniently planned homes conserve energy and release time which may be devoted to income-producing activities or to furthering the social welfare of the family or community. The application of basic data on minimum desirable standards for room sizes, living areas, and work and living centers assures adequacy and convenience at minimum cost and may release money for other use.

Plan of Work: Equipment is secured from the manufacturer on consignment and is tested for efficiency and convenience. Buying guides are prepared for the consumer and reports are submitted to manufacturers giving suggestions for changes or improvements. The testing of household appliances is a comparatively new field, and the work of the Bureau has led to the development of standard tests for ranges, refrigerators, and roasters. Work is under way for developing test methods for other appliances, such as hand irons, vacuum cleaners, food mixers, and washing machines. Minimum desirable kitchen sizes and convenient arrangement of equipment are being studied by setting up kitchens of different sizes and shapes, with different arrangements of equipment. Each set-up is tested with a time and motion study in the preparation of farm meals.

Project 5. Home Economics Information:

Objective: To disseminate the results of the Bureau of Home Economics research in popular as well as technical form, so that any citizen of the United States can have the benefit of this work aimed toward a better-fed, better-clothed, better-housed Nation.

The Problem: The American public is food and diet conscious. American consumers want scientific guides to help them in buying textiles, clothing, and other household goods. American home owners want to plan and equip their homes according to modern principles of labor saving and convenience. Through its publication program the Bureau of Home Economics gives the scientific answers to these and other questions involving the ultimate use of food, fiber, and other household goods.

Significance: Corollary to research is the publication of results. If the results have significance to health and general welfare, then the results must be made public in such a way as to do the greatest good to the greatest number. The Bureau of Home Economics publications are the most widely sought of all of those on the Department of Agriculture list. Over two million copies of the Bureau of Home Economics bulletins are distributed each year in response to public demand. The reason is that home economics deals with the end products of agriculture and other industries. It is the science of ultimate consumption. Text-book writers, newspapers, and radio networks gladly carry the story of this scientific research when it is presented to them in terms they can understand.

Plan of Work: This work consists of --

(1) Printed publications -- Preparing for publication, in close cooperation with research staff, a yearly total of approximately 25 bulletins and 50 journal articles of both technical and popular nature.

(2) Press material writing -- Writing press releases, notably the weekly series entitled "The Market Basket" on foods and nutrition.

(3) Radio talks -- Preparing script on the Bureau's work for weekly broadcast on National Farm and Home Hour, a coast-to-coast network; also writing scripts for syndicated distribution to local stations through Department's radio service and preparing occasional scripts for scientific staff.

(4) Exhibits -- In cooperation with Department exhibit specialists, developing plans for displays of home-economics research results, and planning small traveling exhibits of Bureau's material.

(5) Film strips, charts, and other visual material -- Developing plans for and assisting in the making of film strips series, distributed through the Extension Service; making lay-outs for printed and photographic series of charts showing in modern visual form the results of the Bureau's work.

SUPPLEMENTAL FUNDS

Direct Allotments

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Emergency Relief, Agriculture, Administrative Expenses (transfer from J. P. A.):</u>			
Administrative expenses in connection with a cooperative study of measurements for ready-made garments and patterns for adult women.....	\$4,489	---	---
Administrative expenses in connection with a study of family budgeting practices.....	4,514	---	---
Administrative expenses in connection with a study of the physical structure and growth of children..	583	---	---
Administrative expenses.....	2,600	\$2,664	---
Total.....	12,186	2,664	---
<u>Emergency Relief, Agriculture, Home Economics, Federal Non-Construction Projects:</u>			
Cooperative study of measurements for ready-made garments and patterns for adult women.....	95,000	---	---
Study of family budgeting practices.	108,346	---	---
Study of the physical structure and growth of children.....	9,781	40,612	---
Study of budgeting family resources.	---	32,858	---
Total.....	213,127	73,470	---

SUPPLEMENTAL FUNDS - Continued

Direct Allotments - Continued.

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Special Research Fund: Vitamin A</u> Storage and Reserves: An attempt to Define Optimal Vitamin A Intake...	\$10,000	\$10,000	\$10,000
<u>Special Research Fund: Investigation of</u> the Effect of Heat on the Thiamin (Vitamin B ₁) Present in Foods in Dif- ferent Forms and in Conjunction with Different Constituents Present in Natural Foods.....	---	7,500	---
Total.....	10,000	17,500	10,000
<u>Liquidation and Management of Resettle-</u> <u>ment Projects:</u> For the testing of textile materials which are sold on Resettlement Projects.....	3,200	3,200	3,200
<u>Salaries and Expenses, Agricultural</u> <u>Adjustment Administration:</u> Study of the utilization of surplus agri- cultural commodities.....	5,000	5,000	5,000
<u>Exportation and Domestic Consumption</u> <u>of Agricultural Commodities:</u> Study of the utilization of surplus agricul- tural commodities,(with special re- ference to the Food Stamp Plan).....	---	15,000	15,000
Total, Supplemental Funds (direct allotments).....	243,513	116,834	33,200

COMMODITY EXCHANGE ADMINISTRATION

(a) ENFORCEMENT OF THE COMMODITY EXCHANGE ACT

Appropriation Act, 1941	\$575,000
Public Resolution No. 106, 76th Congress (Act of Oct. 14, 1940) (for enforcement for seven months of fiscal year 1941 of Pace amendment, extending Commodity Ex- change Act to additional commodities)	40,000
Total available, 1941	615,000
Budget Estimate, 1942	626,000
Increase	<u>11,000</u>

PROJECT STATEMENT

Projects	1940	1941 (Estimated)	1942 (Estimated)	Increase
Enforcement of Commodity Exchange Act	\$620,659	--	--	--
1. Market designation and broker registration	--	\$33,644	\$33,644	--
2. Supervision of futures trading	--	236,764	236,764	--
3. Investigation and control of trade practices	--	90,518	90,518	--
4. Preventing misuse of customers' funds	--	100,931	100,931	--
5. Analyses and publication ..	--	110,643	110,643	--
6. Enforcement of Pace amend- ment to Commodity Exchange Act	--	40,000	51,000	\$11,000(1)
Allotted to Office of the Secretary	1,021	2,500	2,500	--
Unobligated balance	1,700	--	--	--
Total appropriation	623,380	615,000	626,000	11,000

INCREASE

(1) An increase of \$11,000 is requested to enable the Secretary of Agriculture to continue enforcement during the full fiscal year 1942 of the provisions of the Pace amendment of October 9, 1940 (Public No. 818, 76th Congress), for which \$40,000 was provided by a supplemental appropriation for the last seven months of the fiscal year 1941. The provisions of the Pace amendment are as follows:

Objective: To provide for supervision of futures trading in fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all

other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, and soybean meal.

The Problem and Its Significance: By the Pace amendment (Public, No. 818, approved October 9, 1940), all fats and oils, including five specifically designated, viz, lard, tallow, cottonseed oil, peanut oil, and soybean oil, together with five other commodities -- cottonseed, cottonseed meal, peanuts, soybeans, and soybean meal -- were brought under the provisions of the Commodity Exchange Act. This amendment materially increased the duties and responsibilities of the Department.

At the present time futures trading is conducted in cottonseed meal on the Memphis Merchants Exchange; in cottonseed oil on the Chicago Board of Trade, New Orleans Cotton Exchange, and New York Produce Exchange; in lard on the Chicago Board of Trade; in soybeans on the Chicago Board of Trade; in soybean meal on the Memphis Merchants Exchange; in soybean oil on the New York Produce Exchange; and in tallow on the New York Produce Exchange. Futures trading has been authorized but is inactive in cottonseed and peanuts. There is no futures trading at the present time in other fats and oils.

During the fiscal year ended June 30, 1940, futures trading in these commodities had an estimated value of \$412,000,000. Cottonseed oil was first, with trading valued at \$165,000,000; soybeans second, with trading valued at \$129,000,000; lard third, at \$97,000,000; and cottonseed meal fourth, at \$21,000,000. Futures trading in soybean meal was not begun until July 8, 1940, and trading in soybean oil was not started until September 3, 1940. Futures trading in tallow during the fiscal year was inconsequential from the standpoint of dollar value.

This amendment requires the designation as a contract market, after compliance with rules and regulations of the Secretary, of each commodity exchange on which futures trading is conducted in any of these commodities if trading is to be continued in these commodity futures. It requires the registration, after the submission of detailed information, including a financial statement, of all futures commission merchants who solicit or accept orders for the purchase or sale of these commodity futures and the registration of floor brokers who execute such orders.

All futures commission merchants must file daily reports of their trading operations and open positions to enable the Department to prevent price fluctuations due to manipulation or excessive speculation. The Act authorizes the Commodity Exchange Commission to fix such limits on speculative transactions in these commodity futures as may be necessary to diminish, eliminate, or prevent sudden or unreasonable fluctuations in prices.

The Act requires that customers' margins deposited with futures commission merchants, as well as accrued equities, shall be dealt with as belonging to the customer for whom deposited and be separately accounted for. The Act prohibits fictitious transactions and bucketing, cheating, and defrauding customers and certain types of transactions, such as wash sales, cross trades, and accommodation trades. Market manipulation and corners of any commodity are made misdemeanors, as is the issuance of false, misleading, or knowingly inaccurate reports concerning crop or market information or conditions that affect or tend to affect the price of any of these commodities.

Plan of Work: Employment of commodity exchange supervisors, analysts, investigators, accountants, auditors, and other employees is required to enforce the provisions of this Act, using the present field offices of the Commodity Exchange Administration wherever possible. Additional personnel employed to enforce the new amendment will operate under the general direction of the present division heads and field supervisors.

CHANGE IN LANGUAGE

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted matter enclosed with brackets):

To enable the Secretary of Agriculture to carry into effect the provisions of the Commodity Exchange Act, as amended (7 U.S.C. 1-17a), and the Act of October 9, 1940, (Public, No. 818), [~~\$575,000~~] \$626,000, of which amount not to exceed [~~\$207,840~~] \$224,840 may be expended for personal services in the District of Columbia.

Except for the appropriation figures, the only change here is the addition of Public, No. 818, known as the Pace Amendment, which extends the provisions of the Commodity Exchange Act to include fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, and soybean meal.

WORK UNDER THIS APPROPRIATION

Objective: The Commodity Exchange Act provides for Federal regulation of commodity exchanges and futures trading in wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, millfeeds, butter, eggs, potatoes, wool tops, fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, and soybean meal.

Problem and Significance: Trading in commodity futures originated in Chicago shortly before the Civil War as an outgrowth of dealing in "time contracts" involving the sale of grain for deferred delivery. Trading in commodity futures has developed in importance until it is now recognized as one of the principal marketing functions. It has an approximate annual value of \$25,000,000,000. Futures trading is now conducted in 20 controlled commodities on 18 exchanges.

In enacting the Commodity Exchange Act Congress officially recognized that futures trading in the commodities covered thereby is affected with a national public interest. This arises from the fact that the prices registered by such trading--which is engaged in in large volume not only by commodity dealers, merchants, and processors, as a means of transferring to the speculator the risk of price changes, but by the public generally, as well--are quoted throughout the United States and abroad and play an important part in the determination of prices to the producer and the consumer. As Congress found, the futures trading facilities on commodity exchanges are peculiarly susceptible of

price manipulation and control, resulting in sudden or unwarranted fluctuations in commodity prices, which were declared by Congress to constitute a burden upon interstate commerce, rendering Federal regulation imperative.

Plan: The Commodity Exchange Administration is charged with the enforcement of the Commodity Exchange Act. In addition to the Washington office, the Administration has branch offices in Chicago, Ill.; New Orleans, La.; Kansas City, Mo.; Minneapolis, Minn.; New York, N. Y.; Seattle, Wash.; and San Francisco, Calif. The work is divided along the following lines of activity:

1. Designation of contract markets, review of exchange rules, and registration of futures commission merchants and floor brokers - Futures trading in the regulated commodities is confined to exchanges which have been designated "contract markets" by the Secretary of Agriculture pursuant to application and upon a showing that the applicant exchange complies and will continue to comply with certain prescribed requirements. Eighteen commodity exchanges are now designated contract markets. The rules and regulations of these contract markets are closely scrutinized to insure full compliance with the Commodity Exchange Act.

Futures commission merchants soliciting or accepting orders for the purchase or sale of commodity futures to be executed on contract markets are required to register annually with the Secretary of Agriculture and to furnish the Secretary such information pertaining to their business as the Secretary may require. Floor brokers engaged in the execution of commodity futures transactions on contract markets likewise are required to register annually with the Secretary. During the fiscal year ended June 30, 1940, 787 futures commission merchants and 551 floor brokers were registered by the Secretary. The fees collected for such registration amounted to \$16,660.

2. Supervision of futures trading - The principal type of activity of the Administration is that relating to the supervision of futures transactions. This work includes (1) the tabulation and review of trade reports; (2) establishment and enforcement of limitations upon speculative activities for the purpose of preventing or diminishing violent price fluctuations; (3) review of crop and market news and market letters issued by brokerage houses; (4) maintenance of quotation and ticker service for the information and use of the Department of Agriculture; (5) current analysis of cash commodity transactions; (6) cooperative efforts with exchanges (especially participation in meetings of business conduct committees of exchanges) to prevent corners and manipulation; and (7) observance of floor trading.

3. Investigation and trade practice control - If the futures markets are to function properly as market-making institutions and for hedging purposes, they must be free at all times from manipulation and corners and fraudulent or other improper influences. To insure that these markets are free from such influences the Commodity Exchange Administration exercises stringent trade practice control. This takes the form of investigation of complaints and violations of the statute and prosecution when justified, investigation of delivery practices and prevention of fraud and deceit in broker-customer relationships.

4. Protection of customers' funds - For the greater protection of commodity futures customers, margins deposited with futures commission

merchants are required to be dealt with as belonging to the customer for whom deposited and to be separately accounted for. In the enforcement of the Act the 19 accountants of the Administration made 722 audits of the books and records of futures commission merchants. In addition, they conducted numerous special audits and surveys. A cursory examination was also made of the financial statements submitted by futures commission merchants with their applications for registration.

5. Economic analysis and publication of information - The Administration compiles, analyzes, and publishes information on all phases of futures transactions and related aspects of the marketing of agricultural commodities as prescribed by the Commodity Exchange Act. These investigations and studies have a two-fold purpose: (1) to aid in the enforcement of the Act and (2) to make available complete factual information concerning futures transactions so that all interested persons will have access to the same pertinent material. These activities may be classified as (a) analyses of current price movements, (b) studies of price relationships, (c) studies of market organization, (d) studies of hedging facilities, (e) economic appraisal of futures trading, and (f) compilation and publication of information.

FOOD AND DRUG ADMINISTRATION

Note.--Pursuant to the provisions of the Reorganization Act of 1939 and Reorganization Plan No. IV, the Food and Drug Administration, except the functions of the Insecticide Act of 1910 and the Naval Stores Act, has been transferred to the Federal Security Agency. The \$2,750,744 appropriated for the Food and Drug Administration and \$25,000 appropriated for Trust Account, Sea Food Inspections, Food and Drug Administration, in 1941 was, accordingly, distributed as follows:

Federal Security Agency:

Salaries and Expenses, Food and Drug Administration	\$2,514,062
Trust Account-Sea Food Inspections	25,000
Total, Federal Security Agency	<u>2,539,062</u>

Department of Agriculture:

Salaries and Expenses, Agricultural Marketing Service:

General Administrative Expenses	8,802
Naval Stores Act	34,700
Enforcement of Insecticide Act	<u>193,180</u>
Total, Department of Agriculture ...	<u>236,682</u>

2,775,744

SOIL CONSERVATION SERVICE

(a) SALARIES AND EXPENSES

Provision is made under the first proviso for the construction of eight buildings at a cost of not to exceed \$15,000 per building, instead of ten buildings provided for in the 1941 Act.

Funds for the construction of these buildings have not been included in the 1942 estimates but continuation of this permissive authority is recommended in order that it may be possible to meet urgent construction needs of the soil erosion program if finances can be made available through adjustments in other expenses as the year progresses.

Although \$15,000 is given as a limitation on maximum cost, the average cost of buildings constructed under this authority during the fiscal year 1940 was less than \$6,000. These buildings consist of working headquarters for field employees, and utility buildings to provide for storage of equipment, storage of nursery stock and space for grading and packing of nursery stock during inclement weather. In many cases present rented space for these activities is located such distances from the headquarters of actual operations that an uneconomical amount of time and expense is consumed in transporting equipment and personnel between the points of activity. In a few instances where the rental of storage facilities at distant points is entirely impractical, equipment at present must be exposed to extra depreciation from weather action, and project activities must be suspended until the weather permits their resumption.

Any buildings constructed under this limitation would be used in connection with the research activities under the appropriation "Soil and Moisture Conservation and Land-Use Investigations" and the operation of the erosion control nurseries established under the item "Soil and Moisture Conservation and Land-Use Operations, Demonstrations, and Information".

(b) GENERAL ADMINISTRATIVE EXPENSES

Appropriation Act, 1941	\$550,000	
Transferred 1941, pursuant to Reorganization		
Plan No. IV, to:		
Department of the Interior	-\$33,000	
Post Office Department	- 5,210	-38,210
Total available, 1941		511,790
Budget Estimate, 1942		510,334
Decrease		<u>1,456</u>

PROJECT STATEMENT

Project	1940	1941 (Estimated)	1942 (Estimated)	Decrease
General administrative and business expense....	\$507,858	\$511,790	\$510,334	-\$1,456 (1)
Unobligated balance.....	5,982	- -	- -	- -
Total appropriation.....	513,840	511,790	510,334	- 1,456

DECREASE

(1) A decrease of \$1,456 under this item is recommended due to anticipated reduced costs in connection with processing bids and determining lowest bidders, pursuant to the Transportation Act of 1940.

WORK UNDER THIS APPROPRIATION

This appropriation provides for the offices of the Chief and for the salaries and expenses in Washington for the Divisions of Personnel Management, Service Operations, and Budget and Finance. It also provides for general direction and supervision by the Washington Office of all such lines of work in the field.

SUPPLEMENTAL FUNDS

(Direct Allotments)

Projects	Obligated, 1940	Estimated obligations, 1941
<u>Emergency Relief, Agriculture, Soil Conservation Service, Administrative Expenses (Transfer from W.F.A.): For administrative expenses in connection with national program of soil conservation</u>	<u>\$18,429</u>	<u>\$685</u>

(c) SOIL AND MOISTURE CONSERVATION AND LAND-USE
INVESTIGATIONS

Appropriation Act, 1941\$1,500,000
Budget Estimate, 1942 1,500,000

PROJECT STATEMENT

Projects	1940	1941 (Estimated)	1942 (Estimated)
1. Investigations of the principles involved in soil and moisture conservation and methods for their practical application on the farm ...	\$629,794	\$602,319	\$602,319
2. Watershed investigations of the effect of land-use practices on run-off as related to the methods of control of erosion and floods	488,416	423,018	423,018
3. Investigations of sedimentation resulting from erosion	103,514	93,960	93,960
4. Investigations of geographic and climatic factors related to erosion .	87,160	81,035	81,035
5. Investigations of the economics of soil and water conservation	97,622	89,542	89,542
6. Investigations of erosion-resisting plants of economic value	97,622	89,542	89,542
7. Farm irrigation investigations	84,873	85,544	85,544
8. Farm drainage investigations	32,111	35,040	35,040
Unobligated balance	10,073	- -	- -
Total	1,631,185	1,500,000	1,500,000

WORK UNDER THIS APPROPRIATION

General. This appropriation provides for research and investigations into the character, cause, extent, history, and effect of soil erosion and water depletion and methods for soil and water conservation. These investigations are fundamental to the development of practical and effective measures that will maintain the land or restore it to a usable and profitable condition.

With the rapid development of the programs of Soil Conservation Districts and the other conservation activities of the Department and State agencies, the research work of the Service is playing a role of ever-increasing importance in developing the facts and principles upon which such programs must be based. A large portion of our research workers' time is spent in assisting the field technicians in finding the solution of problems necessary for practical erosion control in new areas.

The reason for these demands is readily apparent when it is noted that the Soil Conservation Service is the only agency in the Department engaged in research on direct methods of erosion control and water conservation on farm lands. Conservation enters directly into the programs of a dozen action agencies of the Department whose appropriations for each of the years 1940 and 1941 exceeded two-thirds of a billion dollars.

The program of research is cooperative with State experiment stations and other agricultural research agencies of the Department and States. The State agencies, by agreement with the Secretary, cooperate with the Soil Conservation Service in the conduct of the work, and as far as possible furnish land, laboratories, office facilities, and technical assistance. As soon as the trend of results from a study can be perceived, measures promising to control run-off and erosion under conditions encountered in the studies are developed and tested. The demonstration projects, which are well distributed over the United States, offer added facilities for evaluating the field application of measures found experimentally promising for controlling both run-off and erosion. Evaluation studies carried out on cooperating farms prove very helpful in determining the limitations of different soil-conservation practices and furnish a practical basis for assigning priority to problems needing further research study by the different research divisions.

Information relating both to general principles and to procedures developed is made available first of all to the State and Federal specialists so that their programs may be improved as a result of the findings. After the results have been carefully checked and conclusions and recommendations thoroughly tested, the information is released to the general public. Radio and press facilities furnish the avenues over which information directly applicable to field needs is released, while formal technical bulletins and scientific periodicals carry more detailed discussions.

The work is carried forward under the following projects:

Project 1. Investigations of the principles involved in soil and moisture conservation and methods for their practical application on the farm:

Objective: To determine the causes underlying loss of soil and water from agricultural areas, and to develop and test methods for retarding or preventing wind and water erosion.

The Problem: Since soil, plant nutrients, and moisture are required for the production of plants and plant products, the problems assigned this

financial project are fundamental in the planning of a permanent and adequate agricultural program. Though the number of basic problems is relatively small, each has many phases when considered for the agriculture of the nation as a whole due to the great variations in climate, soil topography, crops and erosion history from one part of the United States to another.

Though each locality has many problems there are certain outstanding ones for which the need of answers is more pressing. In northern Maine, for instance, the problem of how to use terraces, contour farming and other conservation measures to prevent great erosion losses from the steeply sloping potato fields of Aroostook County and, at the same time, raise higher quality potatoes is very important. Added examples of the many soil and moisture conservation problems of areas scattered over the entire country follow: the conservation of moisture and the remaining topsoil to make it possible for wine and table grapes to continue to be grown on steep slopes in Finger Lakes Region of New York; the conservation of moisture, soil and fertility for producing fruits and truck crops on nearly level to gently rolling sandy soils of the Coastal Plain in Central New Jersey; the prevention of erosion on soils kept necessarily at a relatively low level of organic matter for the production of bright tobacco on steeply rolling sandy soils in North Carolina and surrounding region; development of a system of farming which will be permanent and profitable on the badly eroded clays of the Southern Piedmont; the conservation of soil and moisture on the rolling lands of the corn belt states which contain the majority of the farm land of the United States; the conservation of soil and moisture on many different soils and under a variety of rainfall conditions to insure the continued production of cotton; the stabilization of soil in the "Dust Bowl" of the Southern Great Plains; the conservation of moisture needed for the improvement of range and pasture lands and the alleviation of drought in the Northern Great Plains; the conservation of moisture for the production of wheat, corn, and other grains in portions of the Great Plains where low rainfall is a determining factor; the prevention of soil losses due to wind and water and the conservation of moisture for wheat production in the dry farming regions of the Pacific Northwest; the control of erosion on steep slopes cropped to beans in the citrus region of California and the prevention of the eroded material from these steep slopes from being debouched upon valuable citrus groves.

Plan of Operation: All investigations are carried out in cooperation with various State Experiment Stations, at sixty-three locations. There are eighteen major stations at which problems relating to general climatic, cropping, soils or erosional region are investigated. At the remaining locations, usually but a single well defined problem is investigated.

Typical of the studies now under detailed investigation are: (a) the effectiveness of different types and sizes of terraces in conserving soil and water, (b) contour farming as compared with up and down hill farming, (c) machinery and other cultural problems arising from the use of terraces and from contour farming, (d) the efficiency and practicability of different cropping systems in a soil conserving plan of agriculture, (e) the relation of soil characteristics to erosion, and methods of

improving soil condition, (f) the effect of using living vegetation in contour strips, in balks, and in extensive covers for protecting the soil surface and improving subsurface conditions, (g) the stabilization and return to use of areas exposed to and damaged by wind erosion, and (h) the effectiveness of crop residues in conserving the small moisture supply in semi-arid and arid regions.

Project 2. Watershed investigations of the effect of the land-use practices on run-off as related to the methods of control of erosion and floods.

Objective: To investigate and determine the effect of erosion control measures and land-use practices on run-off from watersheds.

The Problem: The influence of land-use practices on the run-off and erosion from complete natural watersheds is essential in the planning of watershed improvement programs directed toward the conservation of soil, the reduction of floods, the better use of water resources, and the attainment of a balanced agricultural economy. Despite the tremendous national importance of such programs, little has been done to obtain the research data so necessary for their success. At present the lack of this information is proving a serious handicap in the planning and formulation of broad governmental policies for the conservation of natural resources. It is extremely important, therefore, that the research now under way on experimental watersheds and on farm watersheds scattered on some 20 project areas throughout the United States be pursued with the greatest possible vigor.

Without reliable information on the rates and amounts of run-off from watersheds, it is impossible to make dependable estimates of the magnitude of floods which must be handled by channels, spillways, check dams, culverts, and other hydraulic works used in soil and water conservation operations. This makes it necessary that data be collected from typical areas throughout the United States.

The rapid growth of the demonstrational work of the Soil Conservation Service emphasizes the fact that the most difficult problems and the most costly operations are those associated with the removal and disposal of the run-off from agricultural lands. Only meager data were available on the type of vegetal covers that might be used to stabilize terrace outlet channels. It is obvious that this type of information is urgently needed in various regions of the United States in order to make possible recommendations as to the particular type of vegetal linings for terrace outlets and other channels. Since preliminary data indicated the size of rain drops to have a marked effect upon infiltration and erosion, it was deemed necessary that investigations be initiated for determining some of the principles involved.

Plan of Operation: The work under this financial project falls under the three following investigations: (a) Investigations of the effect of land use on watershed flood control and on run-off and erosion as related to methods of watershed conservation of soil and moisture. These investigations are centered at four major locations on watersheds near Coshocton, Ohio; Waco, Texas; Hastings, Nebraska; and Mexican Springs, New Mexico.

The studies are conducted in cooperation with different State Experiment Stations and call for careful measurements of run-off and erosion from natural watersheds ranging in size from a fraction of an acre to several thousand acres. These watersheds are covered with different types of vegetation and receive varying cultural practices, thus permitting direct comparisons of the effects of various land-use practices. (b) Determination of rates and amounts of run-off from watersheds located in the important agricultural areas of the United States, for use in the economic design of erosion and flood control measures and of the hydraulic structures used in conservation practices. Due to the many differences between soils, rainfall, physical characteristics of watersheds, etc., data are being collected from a wide variety of watersheds located on 90 different problem areas throughout the United States. These studies are being conducted in collaboration with the operating divisions of the Service and in cooperation with the agricultural experiment stations of those 20 States in which the projects are located. (c) Investigations in the hydraulics of soil and water conservation and the development of economical hydraulic systems for removing and disposing of the run-off from farm lands. Studies are being carried out in close cooperation with agricultural experiment stations where special facilities are available. The present work is centered at Spartanburg, South Carolina; Auburn, Alabama; Minneapolis, Minnesota; Logan, Utah; Corvallis, Oregon; and Prosser, Washington. Channels of various sizes, designs, slopes, and with different vegetal covers are being thoroughly tested for their resistance against erosion and for their actual carrying capacities.

In order that immediate use may be made of the findings from these investigations, very close contact is kept with the operations work of this Service and with technicians working on flood control. Data are released promptly to technical workers so that they may be used in improving the action programs with which they are connected.

Project 3. Investigations of sedimentation resulting from erosion.

Objectives: (1) To determine the types and locations of past and potential sedimentation damage resulting from accelerated soil erosion, (2) to ascertain the sources of damaging sediment and the extent and nature of conservation work required to assure adequate protection to downstream resources as well as to upland soils, and (3) to develop control methods for protection of these downstream resources supplementary to those used primarily for protection of upland soils.

The Problem and its Significance: Accelerated soil erosion not only destroys farm fields, ranges, and woodland, but the products of erosion washed off the uplands seriously damage the agricultural productivity of bottom lands and impede the economic use of the water resources. For many years (in some places centuries) soil erosion has been producing abnormal quantities of silt, sand, and gravel which have overloaded streams and caused damaging deposits of sediment; such accumulations of sediment, in turn, when discharged into reservoirs, in stream channels, and on bottom lands cause a damage to agriculture, water supply, power, irrigation, drainage, flood control and navigation developments conservatively estimated as \$50,000,000 annually.

Approximately 12,300 dams and reservoirs, costing more than \$3,700,000,000 are now present in the United States. Many million dollars are being spent each year on new reservoir construction. About one-fifth of the reservoirs costing three-fourths of the total original investment depend for their usefulness on available storage; when this storage is lost as a result of silting caused by soil erosion, the value of these developments will have disappeared. More adequate methods for reducing the rate of silting through erosion control on headwater areas, directed sedimentation in tributary valleys, and passing of sediment-laden flows through reservoirs need to be developed.

Throughout large parts of the United States stream and valley sedimentation resulting from soil erosion is causing damage to valley agricultural lands, both by accumulation of infertile sand over fertile fields and by clogging stream channels and thus aggravating problems of flood-control and bottom-land drainage. In addition, sedimentation is reducing the capacity of stream channels to carry off flood waters and increasing flood-control costs, is impairing navigation facilities, and has created new swamp areas which are hazards to public health. Investigations are urgently needed to determine the extent to which amelioration of harmful sedimentation in streams and valleys may be achieved by control of upland erosion, as well as to determine the extent to which erosion control is justified for this purpose and the extent to which conservation of valley soils and other valley resources may be achieved by more direct control of sedimentation within the valleys.

Accurate knowledge of the total quantity of sediment being carried in natural stream channels and gullies is essential to the most economical construction of stream-control, flood-control, and erosion-control works. It has been possible for many years to measure the sediment carried in suspension in a stream by the turbulent energy of the water, but heretofore it has been impossible to make accurate measurements of the bedload or coarser sediment rolling, sliding, or bouncing along the stream bed. This lack of data is reflected by the fact that various estimates in recent years have placed the amount of bed load as anywhere from 2 to 200 percent of suspended load. Such varying estimates, not based on actual measurements, have often resulted in excessively costly stream-control works and reservoirs and occasional failures of such works from inadequate design.

Plan of Operation: Investigations under this project involve field surveys, field-station measurements, laboratory experiments, and bibliographic collection and analysis of existing data.

The problem of reservoir silting and its relation to soil erosion is being studied primarily through field surveys, usually with the cooperation of Federal agencies, State agricultural experiment stations, municipalities, and power and irrigation companies.

A national reservoir inventory is being prepared and surveys are being made of selected representative reservoirs to determine the nature and rate of silting. Studies are then made in cooperation with soil specialists to determine the sources of this sediment and the type of

protective means required. The information thus obtained is turned over immediately to the Operations and Planning Division of the Service for use in developing conservation programs on reservoir watersheds. The effectiveness of this approach is now being demonstrated in the Southeastern States where, as a result of this research, numerous cities and towns depending for their water supply on storage reservoirs are initiating erosion control measures on the watersheds through active Soil Conservation Districts.

The extent of harmful sedimentation in stream channels and on valuable valley lands is being investigated through Nation-wide inspection and inquiry. Studies, including laboratory analyses, are made in selected parts of major problem areas in order to determine the extent and nature of past and probably future damages and the contributing causes. These findings furnish the basis for the development of detailed plans for remedial measures for controlling these types of damage.

Research on stream and valley sedimentation has led to the discovery that, for the same flood discharge, deposition of erosional wastes on first bottoms is causing increased flood hazards to numerous towns and to agricultural areas on second bottoms or terraces. These studies make it quite obvious that some parts of the Upper Mississippi Valley region, including important towns which have never experienced serious floods in the past, will do so in the very near future unless the present rate of soil erosion is promptly checked.

To facilitate the determination of the quantity of sediment that is being transported under various conditions of flow as bedload, a station of novel design has been built on the Enoree River near Greenville, South Carolina. It is expected that the results from this station will make possible the development of simple and widely applicable means of measuring bedload on any stream. These findings will furnish the basis for adequate design, with material savings in construction of future stream-control and soil conservation structures. Studies are now under way to determine the limitations on and methods for bypassing the largest possible amount of sediment through water spreading and irrigation dams with the loss of the least possible amount of water, which is needed for irrigation.

To gain a clearer understanding of these natural laws governing the entrainment, transportation, and deposition of sediment, which must be had before many practical control works can be designed, a laboratory has been set up in cooperation with the California Institute of Technology at Pasadena, California. It has long been known that the amount and character of sediment transported by a stream has a definite relation to its power of erosion and sedimentation. These laboratory studies will supply data for the development of control methods by utilizing the natural power of the stream to combat the present trend toward destructive sedimentation and promote the deposition of erosional waste where it will do the least harm or, in some cases, the most good.

Project 4. Investigations of the geographic and climatic factors related to soil and water conservation.

Objectives: (1) To determine the character and distribution of the climatic factors which are responsible for soil erosion, floods and drought and which determine the type of soil and water conservation practices that can be used in the different parts of the country, (2) to determine the physiographic factors of soil erosion under various climatic land use conditions so that effective control measures can be planned on a permanent basis and (3) to determine the extent and severity of past floods and soil erosion resulting from previous misuse of the land and to evaluate early methods of soil conservation in order that the fundamental background needed for any scientific research will be available for the more thorough understanding of soil and water conservation problems.

The Problem: Erosion control and water conservation measures must be specifically adapted to the climatic, physiographic, and economic conditions of the area in which they are to be employed. Control measures cannot be standardized for universal application under all environmental conditions. Those which are successful in the Piedmont may fail completely if applied in the Southwestern States.

Climatic conditions affect not only the distribution of vegetation and the formation of major soil groups but also the type and intensity of soil erosion. It is therefore essential that the climatic regions of the country be delimited to serve as units for determining the erosion hazards. Also needed is a knowledge of the extent and distribution of the climatic factors contributing to soil erosion such as the frequency of storms and rainfall of varying and dangerous sizes and intensities and the expectancy of climatic hazards such as drought.

Knowledge of the relationships of soil and slope to erosion is necessary in the development of safe methods of removing surplus water from agricultural lands. Small landslides frequently destroy terraces, meadow strips, and other soil conservation measures and cause millions of dollars worth of damage to highways in various parts of the country. This indicates the urgent need for information on the cause of these landslides and the development of ways and means of preventing them on agricultural lands and highways.

History indicates that in all sections of the United States erosion followed almost immediately upon settlement. Progressive farmers recognized the evil and in many cases tried farm practices which appeared adapted to their individual erosion problem. Records of their experience form the largest mass of erosion-control literature available today. A systematic examination of the literature of foreign regions which have climatic and physiographic conditions similar to those in our own country will enable us to capitalize on the experience which foreign countries have acquired during their longer agricultural histories.

Plan of Operation: Intensive networks of weather stations have been established in several areas of the country in cooperation with the Weather

Bureau to secure data not otherwise available. Physiographic field studies of various types of erosional processes are in progress under the direction of geologists. Erosion historians are examining local journals, newspapers, and unpublished records at many leading libraries of the country and are making field investigations to supplement these records.

Project 5. Investigations in the economics of soil and water conservation.

Objectives: (1) To determine the economic and social effects of a definitely planned program of soil and water conservation and (2) to find the economic relationship underlying the conservation of our soil resources.

The Problem: The economic feasibility and effects of a definitely planned soil and water conservation program must be considered in their entirety as well as from the standpoint of the component parts of such a program. This calls for a study of the economic practicability of the varying soil conservation practices, including the use of fertilizers and other soil amendments; the utilization of organic matter; reduction in acreage of erosion-inducing crops, such as corn, cotton, tobacco, potatoes; and a corresponding increase in the acreage of erosion-controlling crops, such as hay, pasture and woodland, all of which must be considered in planning a complete program of soil and water conservation.

The soil conservation program is being extended very rapidly to districts and this raises important questions as to the economic consequences of shifts in land use on the various phases of the farm business, such as yields, production, labor, power, equipment and materials used, etc. To furnish this type of information, the program must be studied for the purpose of determining the relationship of different parts to their effects on the component enterprises, such as the production of potatoes, tobacco, cotton, corn and certain fruits and vegetables.

Plan of Operation: The economic and social effects of the application of recommended soil and water conservation plans are sought through the medium of farm income records on farms. These records cover farms on which soil conservation measures recommended by the Soil Conservation Service are in effect, as well as those farms that have not adopted the recommended program. At present these studies are under way in fourteen of the States in which they were originally initiated.

In addition to and supplementing the farm-income-record, special investigations are under way designed to furnish the needed data for the computation of advance estimates upon which the economic consequences of adopting a soil conservation program may be judged.

Information is also being gathered regarding farmers' experiences with the soil conservation programs and their attitudes toward it. From past observations it is obvious that many factors other than economic considerations figure in the farmer's acceptance or rejection. A better understanding of these factors and the farmer's reasoning should prove helpful in getting more and better conservation on the land.

A series of reports soon to be released will describe some of the economic consideration which must be taken into account in planning for soil and water conservation upon representative types and sizes of farms and for different regions in those locations where adequate data are available.

Project 6. Investigations of erosion-resisting plants of economic value.

Objective: To find and develop a permanent hill-land agriculture which will protect the soil and give a profitable income. The basic principle involved is to work out ways and means of protecting the soil through special selection and management of ground cover vegetation integrated with crop plants and managed under a naturalistic (ecological) system of land use.

The Problem: The work under this project deals with the problem of growing crops on farm lands that are too steep or erodible for ordinary cultivation. Many millions of acres of agricultural land must be retired from clean-tilled cultivation in order to accomplish the national program of soil and water conservation. The annual cash returns from uncultivated vegetation, such as ordinary forest cover or pasture, usually are so low that the average farmer cannot make a living if he discontinues production of tilled crops to the extent called for in the erosion-control plans in hilly regions. Consequently, an urgent need exists to find economic erosion-control plants and develop methods of handling them that assure safe and profitable use of retired cultivated lands.

Plan of Operation: Hillculture studies are undertaken in collaboration with field units of the Service and in close cooperation with the State Agricultural Experiment Stations, and designated units of other interested Bureaus of the Department, particularly the Bureau of Plant Industry. The research work in progress is divided into the following three studies: (a) Investigations to find promising erosion-control plants of economic value. Continued field work carried out chiefly east of the Mississippi River has resulted in the selection of approximately 300 promising forms of economic erosion-control plants which have been assembled for observational tests at conservation nurseries and study at cooperating stations. Basic research was done in the native range of black locust resulting in the recognition of distinct geographic types of this species. Three of the types represent superior growth forms occurring over large areas that may be of immediate value as seed sources to replace a large quantity of the unselected seeds now being used.

(b) Investigations to test and prove promising erosion-control plants and vegetation methods. Field tests to prove and develop hillculture methods and crops are in progress only in five plant growth regions out of the ten such regions in the continental United States. Such tests are essential to determine the plants and methods fitted to the requirements of climate, sites, erosion conditions, and farming needs, and are now in progress in Alabama, California, Iowa, Maryland and Ohio. It has been found that ground covers of winter-annuals and summer-annuals, under management to control competition for soil moisture, serve the same purposes as tillage cultivation; and that retention of humus and plant litter on

the surface or in the top soil is a chief factor in successful hillculture practice.

(c) Investigations to improve erosion-control plants and vegetation methods. The economic development of hillculture depends largely upon bringing to a high level of crop value those plants which have successfully passed through the initial stages of selection, field tests and evaluation. This phase of work is primarily cooperative with the Bureau of Plant Industry and other interested Departmental agencies. New methods of vegetative propagation of outstanding erosion-control plants have advanced rapidly and are being practicalized for quantity production of superior selections of black locust, holly, pecan, honey locust and several other promising hillculture species. A new product of insecticidal value found in the Velvet tree gives economic promise to the use of this erosion-control plant. Work on the wild beach plum of the north-eastern coastal area which has been found to be readily adaptable as an erosion-control barrier over a wide range of climatic conditions has yielded selections bearing an abundance of high quality fruit for processing and marketing. Tannin studies of selections of native American sumcas indicate high tannin values that may be developed to replace uncertain imports and thus give economic crop value to these good erosion-control plants. Improvement of several nut plants through cooperation with the Bureau of Plant Industry is moving forward systematically. Good progress is being made in the study of specialty woods such as black walnut, hickory, elm, curly-grained poplar, birdseye maple, Cedrella and black locust for improving income on land retained in permanent cover. Durability tests on the wood of selections of black locust show that durability is a genetic quality and furnishes a practical basis for rating the many promising selections that have been made of this noteworthy farm tree.

Project 7. Farm irrigation investigations.

Objectives: Through studies of the hydrologic phases of farm irrigation to develop ways and means of making the most advantageous use of irrigation waters from various sources and of applying the water in ways which will allow the minimum loss of both soil and water.

The Problem: Irrigation has made it possible to develop profitable agriculture over extensive areas of our best agricultural lands. The practice of irrigation, however, has brought up many important questions needing investigation. It is important that the best methods of conserving and applying irrigation water to fields be developed so as to provide an adequate supply for plant growth without creating an erosion hazard. This calls for the development of ways and means of decreasing losses of water between the source of supply and point of application, the design and construction of apparatus for accurately measuring the quantity of water delivered to the farmer and for securing the economical conveyance of irrigation water.

Since the quantity of water available from streams and reservoirs in the arid regions of the West is frequently insufficient to supply the needs of the land suitable for irrigation, additional sources of water

must be sought. In many cases this added water is stored below the surface of the ground in layers of saturated sand and gravel and may be recovered by pumping from wells. Here again careful investigation is necessary before a project designed to recover this supply of water is undertaken. It is essential, for instance, that the legal status of irrigation wells be considered, the quantity of water required for the crops to be irrigated, the quantity and quality of water available from the underground source, and the economic limit of pumping lift. Not only must these factors be considered, but the soil must be suitable for growing the proposed crops under irrigation and must be protected against erosion.

Much of the water used for irrigation is derived from melting snow on the mountains. Snow surveys are therefore very necessary for the forecasting of irrigation water supplies. This enables the farmer to adapt his cropping program to the amount of water which will be available during the growing season and thus avoid the loss of both seed and labor. It has been demonstrated that water shortages can be predicted before they occur and the supplying of this advance information before the planting season has resulted in great savings.

Plan of Operation: The work under this financial project is centered pretty largely in the West and work is conducted at various locations and in cooperation with a number of Federal and State agencies. Informal cooperative investigations are also carried out with irrigation enterprises, municipalities, and power companies. Studies now under way include investigations along the following lines: (a) water requirements for irrigation, (b) pumping for irrigation, (c) storage of water underground, (d) drainage of irrigated land, (e) snow surveys and irrigation water supply forecasts, (f) design and invention of irrigation apparatus, (g) silt in streams and reservoirs, (h) flow of water in ditches, pipes, and other irrigation conduits, and (i) study of irrigation institutions which includes a study of the State water laws.

Active work treating with one or more of the above problems is under way in different locations within the following States: California, Oregon, Washington, Wyoming, Utah, Nevada, New Mexico, Idaho, Texas, Arizona, and Colorado. Findings are released in the form of reports and recently two Department bulletins have been published, circular No. 546, entitled "Putting Down and Developing Wells for Irrigation", and Miscellaneous Publication No. 380, dealing with snow surveying. Because of recent droughts in several of the middle Western States, there has been a large demand for the circular No. 546.

Project 8. Farm drainage investigations.

Objectives: The objective of the research conducted under this project is the development of better methods of drainage in connection with soil and water conservation and proper land use, including the investigation and reporting upon the best methods and materials used for the drainage of agricultural lands; the improvement of equipment employed in constructing drainage works, and the development of more efficient and effective

methods of maintaining drainage improvements; studies of the laws, regulations and procedures effecting drainage, with the view of developing cheaper and more effective methods of organizing, administering, and maintaining drainage enterprises; and the development of basic hydraulic information, which when applied to the design of drainage ditches, tile drains, and pumping will result in greater efficiency and reduced costs.

The Problem: Drainage is essential to profitable agriculture over extensive areas of our best agricultural lands, and is an important factor in sound soil and water conservation programs. The soil is not a dead inert substance but teems with living microbes that are essential to the production of crops. These microbes cannot function efficiently when the soil moisture content is too high. When spring work is delayed by wet fields the early crops are hurriedly planted in poorly prepared soils that lack aeration and are still cold as a result of excess water. Seed germination and early growth are slow and plants are seriously stunted. The cost of farming this poorly drained land is just as great or greater than the cost of farming well drained land, while the limited crop yield materially increases the average cost of production.

The need for drainage is recognized by the farmers who have spent hundreds of millions of dollars in attempts to improve the drainage of their fields. In many instances they have found it impossible to obtain satisfactory outlets for their field drains and have combined with neighbors in organizing drainage districts under state drainage laws, and through such organizations have constructed public outlet ditches for drainage. According to the Bureau of the Census, there are more than 84,000,000 acres in such organized drainage enterprises in which more than \$680,000,000 have been expended on drainage improvements. More than 140,000 miles of outlet ditches and 6,600 miles of levees have been constructed; 57,000 miles of outlet tile drains have been laid, and in excess of 100,000 horsepower have been installed in drainage pumping plants.

Due primarily to the lack of reliable technical information relative to the requirements for drainage under different conditions of soils, topography, climate, and crop conditions, a large part of the money that has been expended on drainage improvements has been wasted. Tile drains have been installed with depth and spacing entirely unsuited for the soil in which they were laid. Improper grades and poor methods of construction have in some areas resulted in the failure of as much as 30 to 40 percent of the drains installed. Outlet ditches have been constructed with insufficient capacity and depth to permit satisfactory field drainage. Materials have been used unsuited for the soil and water exposures to which they were subjected. Drainage pumping plants of insufficient capacity and poor design have been constructed, due primarily to lack of information relative to the requirements for such plants. Attempts have been made to drain areas unsuited to agriculture, owing to lack of information relative to the effect of drainage upon the soil involved. Maintenance problems have been largely neglected because of failure to realize fully the disastrous results of such neglect.

Plan of Operation: Detailed investigations are carried out in cooperation with the various State agricultural experiment stations. Specific problems or lines of investigations are selected upon recommendations made by representatives of the staffs of the State Agricultural Experiment Stations, the Soil Conservation Service, and other Federal bureaus and agencies as a result of demands from farmers. As soon as results secured upon a study justify, information relating to the general principles and to procedure developed is made available to technical workers and later, when conclusions have been carefully tested, to the general public.

Some of the studies being investigated under this financial project are listed below: (a) groundwater studies in the peat and muck soils of Florida, (b) the drainage of sugarcane land in southern Louisiana, (c) the effect of soil acids, soil alkalies, and frost upon the permanency of clay and concrete drain tile, and (d) the operation and maintenance of community drainage enterprises.

Many of the problems of drainage are very complicated. This is illustrated in the groundwater studies in the peat and muck lands of Florida which were undertaken to determine the rate of subsidence or destruction of the peat soil upon the design and maintenance of drainage improvements. The general opinion was that the rate of subsidence was comparatively uniform over areas of similar soil conditions. However, the investigations developed the fact that subsidence instead of being uniform, varied approximately as the square of the depth to the water table. Subsidence on an area with a 30-inch water table was found to be approximately four times that on an area with a 15-inch water table. Since the useful agricultural life of peat lands depends primarily upon the rate of subsidence, it is important to reduce subsidence to a minimum. The results secured indicate that this can be done by maintaining a high water table. The determination of the optimum depth of water table for various crops grown in the region and the development of methods of controlling the elevation of the water table thus become important phases of the problem to be investigated.

(d) SOIL AND MOISTURE CONSERVATION AND LAND-USE
OPERATIONS, DEMONSTRATIONS, AND INFORMATION

Appropriation Act, 1941	\$18,965,750
Transferred 1941, pursuant to Reorganization	
Plan No. IV, to Department of the Interior	-2,260,000
Transferred in 1942 Estimates to:	
Bureau of Agricultural Economics	- 75,000
Office of the Secretary	- 11,400
Total available, 1941	16,619,350
Budget Estimate, 1942	18,458,350
Increase	<u>1,839,000</u>

PROJECT STATEMENT

Projects	1940	1941 (Estimated)	1942 (Estimated)	Increase or decrease
1. General conservation surveys, soil and moisture conservation operations on demonstration projects, and cooperation with conservation districts, Civil- ian Conservation Corps, and other Federal and State agencies:				
a. Physical land surveys out- side districts and demon- stration areas to serve as basis of land-use reorgani- zation, including all carto- graphic and multilithing activities necessary to map reproduction.....	\$1,028,799	\$899,160	\$899,160	- -
b. Soil and moisture conserva- tion operations by means of demonstration projects in agricultural and erosion regions.....	5,023,169	2,056,599	1,056,599	-\$1,000,000 (1)
c. Soil and moisture conserva- tion operations (Federal aid) in cooperation with soil con- servation districts estab- lished under State laws.....	6,428,502	9,654,755	13,493,755	+3,839,000 (3)

PROJECT STATEMENT -- Continued,

Projects	1940	1941 (Estimated)	1942 (Estimated)	Increase or decrease
d. Technical cooperation with Civilian Conservation Corps camps and other Federal and State agencies	\$3,464,259	\$2,874,759	\$1,874,759	-\$1,000,000 (2)
Total, Project 1	15,944,729	15,485,273	17,324,273	+ 1,839,000
2. Soil and moisture conservation operations on watersheds largely owned or controlled by the Government	1,453,943	- -	- -	- -
3. Operation of erosion nurseries for the propagation of plants for use in soil and moisture con- servation operations.....	1,427,719	1,097,927	1,097,927	- -
Total obligation	18,826,391	16,583,200	18,422,200	- -
Transferred to Solicitor's Office	35,362	36,150	36,150	- -
Unobligated balance	242,596	- -	- -	- -
Total	19,104,349	16,619,350	18,458,350	+1,839,000

INCREASES OR DECREASES

The increase of \$1,839,000 in this item for 1942 consists of:

(1) A decrease of \$1,000,000 in the project "Soil and moisture conservation operations by means of demonstration projects in agricultural and erosion regions" is recommended due to the further reduction of work on demonstration projects through completion of a large part of such work or the handling of new work on old projects as a part of the regular work under the district plan of conservation operations.

(2) A decrease of \$1,000,000 in project 1-d, "Technical cooperation with Civilian Conservation Corps camps and other Federal and State agencies".

This reduction is directly or indirectly attributable to the growth of the soil conservation districts program. The cost of technical cooperation furnished to camps which are assigned to soil conservation districts is charged to the project covering cooperation with Districts (Project 1-c). Likewise, cooperation with FSA, AAA, and other agencies, when the areas involved are within districts, is charged to the "districts" project. Thus the expansion of the districts program results in a reduction of the amount shown under project 1-d. This latter project covers the cost of cooperation with camps not assigned to other established activities (districts, projects, etc.) together with costs of followup work on abandoned areas; and also covers cooperation with State Extension Services, and various other State and Federal agencies where the areas are not within districts or other established projects.

(3) An increase of \$3,839,000 in the project "Soil and moisture conservation operations (Federal aid) in cooperation with soil conservation districts established under State laws" is requested to provide assistance to soil conservation districts which will be requesting cooperation during 1942 in the execution of a soil and moisture conservation program.

There were 420 soil conservation districts organized as of November 15, 1940. It is anticipated that 516 districts will be organized by July 1, 1941, and that another 133 (66 on an annual basis) will be organized during the fiscal year 1942. The average size of the soil conservation districts organized to date has increased in the past year from 540,000 acres to more than 600,000 acres. The funds requested for 1942 will enable the Department to furnish assistance to 360 of these districts of average size on an annual basis.

Recognition of the value of erosion control measures and practices already demonstrated by means of demonstration projects and on established soil conservation districts is indicated by the enactment by 38 States of legislation providing for the creation of soil conservation districts as governmental subdivisions of the States. This legislation authorizes the districts to carry on soil conservation operations, cooperate with State and Federal agencies, and, in most instances, adopt appropriate land-use regulations.

Objective: To cooperate with farmers through soil conservation districts in reducing soil wastage and loss of moisture resulting from accelerated erosion.

The Problem: Throughout geologic history erosion has been active at normal rates and has not interfered with the establishment of a stabilizing vegetative cover. Acceleration of erosion by human activities through deforestation, land abuse in agriculture, grazing, and fire has upset this natural erosional process so that erosion has been variously accelerated from moderate to catastrophic degrees. This acceleration in the speed of erosion is causing soil wastage at an alarming rate, many times over the rate at which nature builds soil. Current survey estimates indicate that over 80,000,000 acres of once good agricultural land is now sub-marginal and can be used no longer economically for agricultural purposes. Many times over this acreage is already severely eroded and if it is to be saved soil conserving measures must be adopted without delay. Main reliance for material and permanent conservation of soil and water resources resides in holding the rain where it falls and harmonizing land use with land capabilities through more effective and widespread application of established methods of erosion control.

Significance: The effects of erosion are far-reaching. They are not confined to the land that is misused and abused but reach out to injure other lands and the work of men far removed. Erosion strikes at the heart of the community, the state, the nation, cutting its basis of support from under it. Erosion eats the plant food which would otherwise help to feed hungry people. The products of erosion clog stream channels, reservoirs, ditches, and harbors, causing losses in navigation, hydroelectric power, and municipal water supplies. Erosion robs the farm family of a proper livelihood and as it advances indiscriminately drives before it both careless and prosperous farmers alike, and even whole communities.

Fifty-five percent of the total land area in the continental United States has been seriously impoverished by man-accelerated erosion. More than 26 percent of this seriously eroded land already is ruined beyond practical restoration.

Of the estimated 130 million population of the United States in 1938 approximately 32 million persons, or about 25 percent, were living on farms. (Agricultural Statistics, 1939). This 25 percent received only about 15 percent of the total national income. During the years from 1910 to 1938 there was a national population increase of approximately 40 percent while at the same time the total number of persons residing on farms remained almost the same. During this period over 8 million persons migrated from the farms to the cities. This means that the Nation's farm families are losing their youth to the cities and the Nation is becoming more and more dependent upon a declining generation for its food supplies. Therefore, the welfare of these farm families is of national concern. Economic distress is a fundamental contributing factor to this migration. The inherent relation of economic dislocation on farms and in farming communities to problems of erosion control has led 38 States to enact legislation to stimulate and aid community effort in fighting the erosion menace on a cooperative basis. Economic and social pressures are such, more often than not, that soil conservation on the part of the individual farmer becomes a matter of doing the best that can be done under the circumstances. An individual farmer can do nothing to stop soil blown from adjoining land over which he has no control onto his fields and covering his crops. His plight grows annually

worse because his neighbor is likewise, single-handed, unable to better his situation, and finally, burdened with debt, he is impelled to seek profits by exploitative farming. Ultimately profit is no longer obtainable and the farm is abandoned to accelerated erosion. Accordingly, since isolated individual effort is ineffective, cooperative effort is necessary.

Plan and Progress of Work: Practical soil conservation is a matter of accomplishing the maximum degree of balance between land adaptability and land use, insofar as compatible with economic and social limitations. The best approach to the problem, to insure full recognition of these limitations, is made by shifting responsibility for formulating and carrying out an erosion-control program to the shoulders of local people, especially of the farmers themselves, on whose lands the conservation measures will be practiced. By this means initiative for program progress comes from local people and will rise from local needs.

The attack on erosion, to be effective, must begin where the erosion begins. For practical reasons the offensive must be planned in such a way that the farmers whose lands are involved will be able to maintain or increase their income after conservation measures are applied to the land. That this is feasible has been absolutely proven, and the value of erosion control measures and practices already demonstrated by means of demonstration projects and on established soil conservation districts is receiving widespread recognition. This is illustrated by the following example indicating the actual and estimated rate of organization of soil conservation districts.

	Actual		Estimated	
	July 1, 1939	July 1, 1940	July 1, 1941	July 1, 1942
Number of districts	161	314	516	649
Total acreage	88 million	190 million	300 million	390 million

This type of cooperative action is provided for in all but ten states, as of July 1, 1940, by legislation permitting the organization of soil conservation districts. By this authority there is established an arrangement whereby farmers or ranchers within a watershed, or other land-use area, may organize for community action and mutual protection in combating the soil-erosion problem.

Districts organized under this legislation are created as Governmental subdivisions of the State, with authority to carry on soil and moisture conservation operations, cooperate with and receive assistance from State and Federal agencies, and, in practically all States, adopt and enforce land-use regulations. Districts organized to July 1, 1940, number 314 and are averaging approximately 600,000 acres in area. Only the following ten

States have not passed legislation authorizing the organization of districts:

Arizona	Massachusetts	Ohio
Connecticut	Missouri	Rhode Island
Delaware	New Hampshire	Wyoming
Maine		

After organization of districts upon request from the district supervisors, the Federal Government may give assistance by providing technical aid in formulating and executing farm conservation plans and in making available labor, materials, and equipment insofar as needs justify and resources permit. As of July 1, 1940, the Department had entered into memoranda of understanding and was cooperating with 224 districts in 28 States. This cooperation involved cooperative agreements covering 29,331 farms and ranches, totaling 6,520,151 acres.

WORK UNDER THIS APPROPRIATION

General. The work under this appropriation item is concerned with the action phases of a national program for the protection of land resources against depletion due to accelerated erosion, and, in general, involves the making of conservation surveys, carrying out of soil and moisture conservation operations on demonstration projects, and cooperation with soil conservation districts, Civilian Conservation Corps, and other Federal and State agencies. The work is divided into projects under which the work of each is described as follows:

Project 1-a. Physical land surveys outside districts and demonstration areas to serve as basis of land-use reorganization including all cartographic and multilithing activities necessary to map reproduction:

Objective: Conservation surveys are made to furnish basic information on the physical condition of lands in order that adequate conservation measures may be applied to them in accordance with their suitability for use.

The Problem: In order that proper consideration may be given to those conservation practices best suited to the characteristics of the land, consistent with the economic and social limitations present, it is imperative that an adequate physical survey of the land be obtained. Reliable information on the capabilities of the land is fundamental to a proper determination, understanding, and solution of land-use problems.

Significance: The general reconnaissance survey made in the fiscal year 1935 at the request of the National Resources Committee gave a very general picture of the problem. This survey emphasized the lack of adequate information as to the nature and extent of erosion, the kind and productivity of the soils and the topography and adaptabilities of the land. This project provides a means for obtaining accurate detailed survey information necessary to carrying out a practical conservation program.

These surveys are basic to the development of farm-conservation plans in connection with demonstration projects, soil conservation districts activities, and all other conservation operations. Those detailed soil conservation surveys carried out on individual farms, ranches, or orchards, necessary in the preparation of reorganized farm plans for soil and moisture conservation on approved demonstration projects, CCC camp areas, legally-constituted soil conservation districts, are not included under this project, since the cost of such work is properly chargeable against the respective project expenditures. However, the character of these surveys is similar to those carried on outside project areas and, as operations programs are developed in areas which have been previously surveyed, the original survey is utilized without duplication. For example, a soil conservation survey covering approximately 1220 square miles in the Lloyd Shoals Watershed in Georgia was completed in 1936 and its expense was reported under this financial project. The information obtained from this physical inventory was published and served to stimulate sufficient interest among the local people for them to organize the Upper Ocmulgee Soil Conservation District. Additional survey information will not be necessary for the development of farm conservation plans in this area. In making surveys outside soil conservation districts and demonstration projects, critical areas have been selected where a problem is known to exist and where the Soil Conservation Service feels that at some future date assistance will be required by the local residents.

A preliminary survey of the physical land factors involved is essential to intelligible planning by local groups such as, State and county planning and other advisory committees, and as a guide in future programs. These surveys also meet the needs of and are utilized by other Federal and State agencies engaged in activities related to soil conservation. Development of this information is one of the main factors influencing the growth of soil conservation districts.

The survey of physical factors and classification of land according to use capability is an inventory of land resources. It provides a definite guide for project planning and is a basis upon which the general economic, social, and land-use adjustments can be logically developed in a community, as well as a physical basis for planning individual farms.

Plan and Progress of Work: Physical land surveys have been developed to show classes of land according to use capability and are designed to include physical information for utilization by all agencies contributing to the conservation of land resources. Their practical use in farm planning permits adoption from time to time of modifications or improvements that increase the effectiveness of the practices of the land.

Physical information is recorded in the field on aerial photographs which are obtained by letting contracts or borrowing negatives from other agencies. Field maps are prepared for publication by compilation of a controlled base map upon which field data and culture are transferred. These detailed maps are then reproduced by multilithing and distributed along with printed reports.

The field survey consists of mapping four factors, namely (1) soil type; (2) nature, degree, extent, and distribution of water and wind erosion; (3) slope gradient; and (4) the present vegetative cover. These data are used in grouping land into classes which have similarity insofar as practices and measures to insure permanency of the land under its most feasible use are concerned. Main groupings of classes segregate lands which can be: Class I, cultivated safely and permanently without the adoption of special practices; Class II, cultivated safely and permanently with simple measures or precautions; Class III, cultivated safely and permanently with only the adoption of intensive practices or after taking major precautions against soil and moisture losses or other hazards; Class IV, used only for occasional or limited cultivation; and Class V, land which is not adapted to cultivation and can be safely used only for permanent pasture or trees.

The major part of the funds shown opposite this project is being used for cartographic and multilithing activities of the Service. All costs of this work (irrespective of whether the maps are used in connection with demonstration projects, districts, CCC camps, etc.) are charged to this project.

Project 1-b. Soil and moisture conservation operations by means of demonstration projects in agricultural and erosion regions:

Objective: To secure by means of demonstrations and education more widespread application of practical and effective methods and practices of soil and moisture conservation, and otherwise provide permanently for the protection of land resources.

The Problem: Although very encouraging progress is being made in cooperative defense against soil wastage and moisture loss through the organization of soil conservation districts, there still remain huge areas in the United States where economic and social conditions are indefinitely deferring the adoption of conservation measures. These areas are predominately in regions where erosion is a critical problem and the farmers are in such economic distress that they are not only financially unable to combat the advance of erosion but have been so long in this situation that they have small confidence in the future. Since uncontrolled erosion does not confine itself or its effects to the eroded areas, this problem concerns men far removed from the distressed regions. Through material public assistance and demonstrations of soil and moisture conserving measures the farmers are shown a practical method of meeting their problems and by proper land use they begin to have confidence in better times.

Significance: Of the total land area of about 1,900,000,000 acres in the United States, soil erosion has seriously impoverished approximately 282 million acres of land. Half of the fertile topsoil has been stripped by man-induced erosion from an additional 775 million acres.

Considering only the approximately 415 million acres of cropland, it has been estimated that erosion has ruined at least 50 million acres beyond further economic cultivation and that an additional 50 million acres are

bordering on the same condition. In addition, on over 100 million acres of this cropland erosion is getting actively under way. This brief statistical analysis makes no accounting for other millions of acres of farm land in woodlots, pasture, and homesites, much of which is subject to active moderate to severe erosion.

Plan and Progress of Work: From the inception of the Soil Conservation Service in 1933, demonstrations of conservation practices have been made on 171 separate demonstration project areas, involving approximately 75,000 farms and comprising about 10,600,000 acres. Actual operations work on 138 of these projects has been completed and they are being continued on a maintenance basis. In relation to the job to be done, these accomplishments are negligible from the standpoint of erosion control, but their demonstrational and educational worth have proven invaluable. As a direct result, farmers and communities are learning the answer as to how their richest resources might be preserved to succeeding generations.

The plan of work under this project consists of establishing demonstrations in selected areas typical of agricultural regions seriously affected by erosion and developing and carrying out of a complete soil and moisture conservation program on each cooperating farm within these areas. The purpose of such demonstrational areas is to demonstrate practical and effective methods and means of erosional control under a proper land-use program. An educational program is carried out in cooperation with the Extension Service in order that information concerning the beneficial results of the demonstrations might be brought to the attention of the public, particularly in farming communities.

Project 1-c. Soil and moisture conservation operations (Federal aid) in cooperation with soil conservation districts established under State laws:

The work under this project is discussed in full under "Increases and decreases", above.

Objective: To obtain widespread application of effective and practical measures for soil and moisture conservation through furnishing technical planning and supervisory assistance to Federal and non-Federal agencies administering or dealing with land resources.

The Problem: The permanent habitability of large portions of the Nation's land area is threatened by erosion and large Federal and private investments in irrigation reservoirs, and values dependent thereon are likewise menaced. The cost to the Federal Government would be prohibitive even if it were feasible to cooperate in the operation or actual work phases of adopting conservation measures on all lands needing treatment. Accordingly, in order to aid in the widespread application of uniform and improved methods for the control of erosion, some other means of approach to the problem is necessary.

Significance and Progress: As previously stated under this item of appropriation, over 55 percent (about 1,057,000,000 acres) of the total land area in

the United States has been seriously damaged by erosion. The combined areas to which conservation measures have been or are being applied since the inception of the Soil Conservation Service, by means of demonstration projects and through cooperation with soil conservation districts, total approximately 23 million acres, about 2 percent of the total eroded areas and only 5 percent of the agricultural land to which erosion-preventive or control measures should be applied. This gives evidence of the size of the job which needs to be accomplished and indicates the progress made to June 30, 1940, through direct Federal aid. In view of these circumstances, it is plain that other and additional means must be taken to combat the erosion problem.

Plan of Work: A number of Federal and various State and local agencies are in a position to carry out soil and moisture conservation measures and/or to establish land-use regulations provided they can be given technical guidance in planning and supervising the work. It is the purpose to furnish such technical planning services to those agencies engaged in activities related to soil conservation.

One of the principal Federal agencies to which technical assistance is furnished is the Civilian Conservation Corps through the camps assigned to soil conservation work. Through this avenue of soil defense, soil and moisture conservation measures had been put into practice by June 30, 1940, on 51,098 farms, involving 10,526,250 acres.

During the year ending June 30, 1940, in 34 States 48 technicians were employed in cooperation with the Extension Service to assist in the development of local conservation programs in cooperation with county agents. This avenue of attack on the erosion problem, which closely affects the economic and social welfare of all citizens alike, offers an excellent opportunity for supplementing, at a minimum cost to the Federal Government, the conservation measures taken through demonstration project and soil conservation district activities.

Project 2. Soil and Moisture Conservation Operations on Watersheds Largely Owned or Controlled by the Government:

After the transfer of the funds and responsibilities to the Department of the Interior in connection with Reorganization Plan No. IV, the funds remaining under this financial project covering activities on private lands were distributed temporarily among three work projects as follows:

1-b	Demonstration projects	\$481,979
1-c	Cooperation with soil conservation districts	137,706
1-d	Technical cooperation with CCC and other agencies	68,854
	Total	688,539

Actual commitments exist for the use of these funds on privately-owned lands and on Government-owned lands, interspersed with the Federal lands under the jurisdiction of the Department of the Interior. Some of these lands are so located that they may be considered as a demonstration project; some may also actually be located in newly formed soil conservation districts or districts now being organized; others may be lands on which our work can best be

reported under Project 1-d, "Technical Cooperation with Civilian Conservation Corps Camps and Other Federal and State Agencies." For this reason and because time has not permitted a complete study as to how this work may best be shown from a budget standpoint, the distribution shown above has been made temporarily, based on the best information available.

Project 3. Operation of erosion nurseries for the propagation of plants for use in soil and moisture conservation operations:

Objective: To provide planting stock for Service needs by production or purchase, including the collection of seed and the testing, improvement, propagation, distribution, and utilization of trees, grasses, and other plants useful in controlling erosion.

The Problem: It is generally agreed that vegetative cover constitutes the most effective means of erosion prevention and control. Not only are planting materials needed in unprecedented quantities, but, in order to meet the diverse climatic and soil conditions involved on the sites to be planted, plants of practically all classes are required, many of which are not available in any substantial quantity except as produced by Service nursery activities.

Significance: The revegetation of eroded areas to which conservation measures are applied, through demonstration project and soil conservation district cooperative activities of the Service, is dependent upon an adequate source of suitable planting materials. These activities involve the use of approximately 120,000,000 plants and 1,500,000 pounds of seed annually. The varied erosion problems to be met require types of plants adapted for special needs, such as gully control, channel lining, windbreaks, range revegetation, etc., combined with different utility aspects, such as fence posts, firewood, game and livestock protection and feed, and soil building. The locations where the plantings are made, being generally devoid of good top soil, also necessitate the use of much plant material not heretofore grown under cultivation and the initiation of correspondingly new propagation and cultural practices.

Plan and Progress of Work: To adequately meet these needs, all-round plant production centers have been developed, rather than nurseries in the usually accepted term, where a wide variety of planting material is produced in large quantities. During the fiscal year 1940 the 33 nursery units then in operation produced approximately 108 million usable plants and over 141,000 pounds of seed. In addition, 11 million plants were secured by purchase from commercial sources and about 1,121,000 pounds of native grass, tree, and shrub seeds were collected and purchased for direct seeding.

Not only is the immediate problem of soil and moisture conservation being aided by soil stabilization through revegetation of the eroded areas, but this phase of activity has directly influenced the increasing sales by commercial nurserymen and seedsmen of plants and seed purchased by farmers for erosion control purposes. It is significant also that specialized types of seed harvesting and other equipment have been developed and are now being manufactured and sold by private industry as a direct result of this program.

SUPPLEMENTAL FUNDS

(Direct Allotments)

Projects	Obligated, 1940	Estimated obligations, 1941
<u>Agricultural Adjustment Administration</u> (Payments for Agricultural Adjustment): Con- servation surveys to determine the extent and distribution of erosion in Puerto Rico (in lieu of Sugar Tax Funds)	\$3,501	\$771
<u>Emergency Relief, Agriculture, Administrative Expenses (Transfer from W.P.A.):</u>		
General conservation surveys, soil and mois- ture conservation operations on demon- stration projects, and cooperation with conservation districts, Civilian Con- servation Corps, and other Federal and State agencies	13,491	6,911
Operation of erosion nurseries for the propagation of plants for use in soil and moisture conservation operations	4,497	4,376
Flood Control statistics	- -	1,903
Total, as above	17,988	13,190
<u>Emergency Relief, Agriculture, Federal Non- Construction Projects (Transfer from W.P.A.) and Federal Construction Projects (Trans- fer from W.P.A.):</u>		
General conservation surveys, soil and moisture conservation operations on demonstration projects, and coopera- tion with conservation districts, Civilian Conservation Corps, and other Federal and State agencies.....	832,656	238,550
Soil and moisture conservation opera- tions on watersheds largely owned or controlled by the Government	206,987	- -
Operation of erosion nurseries for the propagation of plants for use in soil and moisture conservation operations	165,906	151,085
Flood Control statistics	20,809	62,398
Total, as above	1,226,358	452,033
Total, Supplemental Funds (direct allot- ments)	1,247,847	465,994

(e) EMERGENCY EROSION CONTROL, EVERGLADES REGION, FLORIDA

Appropriation Act, 1941 \$75,000
Budget Estimate, 1942 75,000

PROJECT STATEMENT

Project	1940	1941 (Estimated)	1942 (Estimated)
Emergency Erosion Control, Everglades Region, Florida: Research and demonstration work in soil-conservation control measures, including research and demonstration work in fire control and ir- rigation construction work to eliminate fire hazards, in the Everglades region of Florida .	\$49,664	\$75,000	\$75,000
Unobligated balance	25,336	--	--
Total appropriation	75,000	75,000	75,000

WORK UNDER THIS APPROPRIATION

Work under this appropriation includes both research and demonstration activities. Existing data and information are studied with reference to the character, cause, extent, history, and effect of methods of handling water in relation to soil losses chiefly through subsidence and burning in the Everglades Region of Florida. Because of the wet and dry seasons and the land being nearly level, it is necessary to develop means for draining the areas during the wet season while at the same time establishing some method of controlling the ground-water level in order that during the long dry period sufficient water will be available for fire-control purposes and for agricultural and other uses. Tests are made and plans are developed for the work necessary to conserve the soil and establish these ground controls on water tables of the area. This work includes the construction of earthen dikes, control dams, and related structures.

Reconnaissance and detailed surveys are being made to determine:

- (a) The extent of developed and undeveloped agricultural land.
- (b) Depth and character of the mucks and peat.
- (c) Nature of the supporting sub-strata.
- (d) Extent of the burned-over area.
- (e) Land-use capabilities.

Federal funds expended under this appropriation are matched by State funds on a dollar-for-dollar basis. These State funds are made available through the Everglades Fire Control Board, the Internal Improvement Fund, Dade County fire control work, and other political subdivisions of the State.

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(1997, 1998, 1999)

1997

SUPPLEMENTAL FUNDS

(Complete Bureau Statement)

(1) Direct Allotments

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Agricultural Adjustment Administration</u> (Payments for Agricultural Adjustment): Conservation surveys to determine the extent and distribution of erosion in Puerto Rico (in lieu of sugar tax funds)	\$3,501	\$771	- -
<u>Special and Technical Investigations,</u> <u>International Joint Commission, United</u> <u>States and Great Britain (Transfer to</u> <u>Agriculture):</u> Appraisal of results of increasing the height of ground-water table of lands adjacent to Kootenai Lake	1,484	1,500	\$1,500
<u>Flood Control, General (Transfer to Agri-</u> <u>culture):</u> Soil-conservation operations in connection with national flood con- trol program	843,565	2,266,558	1,960,840
<u>Development of Water Facilities, Arid and</u> <u>Semi-Arid Areas, Department of Agricul-</u> <u>ture:</u> Development of water facilities in connection with soil conservation programs	420,488	220,000	265,250
<u>Land Utilization and Retirement of Sub-</u> <u>marginal Lands (Soil Conservation Ser-</u> <u>vice)</u>	5,363,569	2,065,683	2,117,719
<u>Cooperative Farm Forestry</u>	85,291	133,099	133,099
<u>Public Works Administration Act of 1938</u> (Allotment to Agriculture, Bureau of Agricultural Economics) (Transferred to Soil Conservation Service): Con- struction of dams for storage of water, roads, buildings, fences, power lines, and other improvements in connection with the land utilization program and under Title III of the Farm Tenant Act and Flood Control on the Pecos River ..	534,867	43,992	- -

Projects	Obligated, 1940	Estimated obligations, 1941	Estimated obligations, 1942
<u>Emergency Relief, Agriculture, Adminis-</u> <u>trative Expenses (Transfer from W.P.A.):</u>			
Administrative expenses in connection with a national program of soil conservation	\$45,410	\$16,618	(a)
Administrative expenses in connection with land utilization projects ...	80,292	14,058	(a)
Total, as above	125,702	30,676	(a)
<u>Emergency Relief, Agriculture, Federal</u> <u>Non-Construction and Construction Pro-</u> <u>jects (Transfer from W.P.A.):</u>			
For a national program of soil con- servation	1,361,017	560,706	(a)
Physical improvements involving buildings, parks, recreational facilities, public utilities, flood control, and other addi- tions to land	2,814,499	520,562	(a)
Total, as above	4,175,516	1,081,268	(a)
<u>Loans, Grants and Rural Rehabilitation:</u>			
For development of water facilities in connection with rural rehabilitation programs	790,158	335,000	\$262,000
Total Supplemental Funds (direct allot- ments)	12,344,141	6,178,547	4,740,408

(a) 1942 allocations under Emergency Relief funds not yet made.

(2) Indirect Allotments

Project	Obligated, 1940	Estimated obligations, 1941
<u>Civilian Conservation Corps</u> <u>(Allotment through the War</u> <u>Department:</u>	\$10,923,921	\$12,065,760
Total, Supplemental Funds (indirect allotments)	10,923,921	12,065,760

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PASSENGER-CARRYING VEHICLES

The authorization for the purchase of passenger-carrying vehicles for the Soil Conservation Service for the fiscal year 1942 contemplates an expenditure of \$200,000, which is an increase of \$10,976 over the amount authorized for the fiscal year 1941 (exclusive of the amount transferred to the Department of the Interior pursuant to Reorganization Plan No. IV.) This total amount will permit the purchase of 332 cars at an average net cost of approximately \$602 per unit delivered when exchange allowances on old cars are taken into account.

At the close of the fiscal year 1940 the regular activities of the Soil Conservation Service had in operation 1,790 passenger-carrying vehicles. Many of these units are upwards of four to five years old, and experience has shown that on an average these cars can be kept in service for five years and driven for an average life mileage of 75,000 miles. For this reason, even with an expanded program, due to the formation of soil-conservation districts, no increase in the present regular fleet of 1,790 cars is contemplated during the 1942 fiscal year. Only replacement of approximately one-fifth of that number, or 332, is provided for in the estimates. In order to operate the fleet of cars to an average life mileage of 75,000 miles, or for five years at an expected rate of 15,000 miles per year, it will be necessary to pay careful attention to preventive maintenance in strategically located shops in the various regions, together with efficient and economical repair service provided in such shops to take care of all major overhaul work.

The use of the passenger-carrying vehicle is practically indispensable for the proper conduct of the Bureau's varied activities throughout the country. The common carrier is not well suited to this work, as the work is generally performed in areas where public transportation is inadequate. From five years' experience it has been found that Government-owned passenger-carrying vehicles, where continuous and extensive use is involved, can be operated and maintained with less cost to the Government, including depreciation, than personally-owned cars on a reimbursement basis. The replacement of the vehicles contemplated by these estimates, therefore, is essential to carry on the work of the Service in the most economical and advantageous manner possible.



